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TERMS FIVE DOLLARS PER ANNUM, PAYABLE

VOL. XXXVIII.] MS. 1841 THE
**MEDICO-CHIRURGICAL
REVIEW,**
AND
JOURNAL OF PRACTICAL MEDICINE.
(QUARTERLY.)

ARRANGEMENT.

- I.—Extensive Analytical Reviews of English and Foreign Medical Works.
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The whole forming two large annual volumes of concentrated practical information in
MEDICINE, SURGERY, MIDWIFERY, PHARMACY, &c.

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NEW YORK:

REPUBLISHED BY R. & G. S. WOOD,

No. 61 PEARL-STREET.

SECOND NUMBER FOR 1841.



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OF THE

MEDICO-CHIRURGICAL REVIEW,

No. LXVIII. APRIL 1, 1841,

[BEING No. XXVIII. OF A DECENNIAL SERIES.]

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AN INQUIRY
INTO
THE SOURCES AND MODE OF ACTION
OF THE
POISON OF FEVER.

By ALFRED HUDSON, M. B. T. C. D.

PHYSICIAN TO THE NAVAL FEVER HOSPITAL.

MUCH as has been written upon the history of fever, it cannot by any means be considered as an exhausted subject. If indeed we were to test our knowledge of its sources by the universality of their admission, and consider the general agreement of all observers as to their laws as the true proof of these being fully ascertained—a criterion which is applicable to medicine as to the other sciences of observation—we should see reason to conclude that in reality our knowledge of the causes of fever and their modes of action upon the living body is of very small account, and by no means of the most accurate description: for though, in this country at least, the doctrines of localization of fever are not advocated, nor fever considered the effect of inflammation of any particular organ or organs, we find in the most recent writers, equally as in the ancient, the widest differences of opinion as to the phenomena which constitute the origin or nature of this *essential disease*.

An analysis of the mass of conflicting statements upon this subject may perhaps be useful, if only as a preliminary step to other inquiries, by shewing how much of what has been put forward as evidence is really founded on observation, and how much is on the contrary mere matter of opinion and not of fact. Such an examination of what has been advanced upon the disputed question, it is proposed to attempt in the following inquiry.

We regard the essential disease termed fever as the effect of the action on the living body of a morbid poison—in other words of—

“One of that peculiar class of substances which are generated during certain processes of decomposition, and which act upon the animal economy as deadly poisons; not on account of their power of entering into combination with it, or by reason of their containing a poisonous material, but solely by virtue of their particular condition.”*

The mode of operation of this poison upon the body is a fertile theme for dispute between the humoralists and solidists of this as of preceding ages, and whence it is derived and where generated—whether in the body or out of the body—the contagionists and non-contagionists are as much disagreed about as ever.

The humoralist holds that the very definition of a morbid poison, if correctly given by the distinguished author from whom we have adopted it, would point to the blood as the subject of its operations. Since, assuming that the *essence* of such poison is that its elements are in a state of decomposition or transposition—and its *action* to communicate that peculiar transposition to the constituents of the body with which it may be brought into contact, *He* finds in the blood a substance the most susceptible of any part of the organism of the action of exterior influences, and whose constituents are the most prone of any to form new combinations. The humoralist also points to the analogy of other morbid

* Liebig's Organic Chemistry.

poisons, which produce their specific effects upon their direct introduction into the blood. He points to the latent period common to both; and, if he be a contagionist (as he must be), he sees in the formation of the poison by the blood the consequence of the introduction of organic matter in a state of progressive transposition or decomposition (such as is the contagious miasm) into a mixed fluid in which its constituents are contained and the reproduction in that fluid of the exciting body, exactly as yeast is reproduced when added to a mixed fluid in which the gluten from which it originated is contained. On the other hand, the solidist considers that the nervous system is so much engaged in fever, that the poison must be there, or, the phenomena of the latent period are attributable to the nervous system, or, dating this commencement of fever from the nervous shock, sometimes attendant on exposure, and *assuming* that the poison is received into the organism *then* and *there*, he sees an analogy between the action of the poison and certain narcotic substances which he *assumes* act on the nervous system without entering the circulation:—and therefore—fever so acts—or—lastly, the *source* of the poison not being apparent, and the shock preceding the fever, he finds that he can produce contagious fever by a moral impression on the nervous system without the action of a poison at all! 'These are some of the different opinions maintained by recent and able writers on the nature of fever, and which we shall have to glance at when considering the mode of action of the sources of the disease. As to these sources, our latest writers are so disagreed as to make an analysis of their opinions and evidence no easy matter. If we placed them in juxta position according to the doctrines propounded and denied, our index would run thus—

Fever contagious—not contagious.

Arises from putrefying animal matter—denied.

Arises from putrefying vegetable matter—denied.

Infection a direct emanation from the patient—denied.

Infection capable of being generated *de novo*—denied.

Atmosphere of patient infectious—denied.

Contact of ditto infectious—denied.

Fomites infectious—denied.

Fever originating in miasm contagious—denied.

Identity of foregoing with typhus asserted and denied.

These conflicting opinions will come under review successively in the course of an examination into the following questions.

1. The existence of a special animal poison arising from infection, and producing a specific disease—typhus.

2. The generation during the decomposition of organic substances of a poison capable of producing fever when applied to the living body.

3. The power of this paludal fever to communicate itself from one individual to another. Does it possess the power of infection *per se*? in other words, are typhus and typhoid fevers identical? or, does it acquire it by the aid of adventitious circumstances, and so become communicable by conversion into or super-addition of typhus?

4. Arising out of the preceding is the inquiry—what are the adventitious aids to the diffusion of each kind of fever? the laws which regulate their epidemics, and the sanatory measures best calculated to neutralise their operation.

CHAP. I.—OF THE INFECTIOUS ANIMAL POISON GENERATED IN THE LIVING HUMAN BODY, AND CAPABLE OF PRODUCING FEVER WHEN APPLIED TO HEALTHY BODIES.

SECT. 1.—*Proof of its tangible existence.*—It might have been supposed that

the accumulated evidence of infection presented in the histories of the typhus of Great Britain, would satisfy the most incredulous; but it is not so, and a recent author has denied the existence of such a cause of fever as atmospheric contagion*—in other words, of “an atmosphere holding in solution a specific contagious poison.” Because—“it has never been unequivocally manifested to any of the external senses; it has never been seen combined with the atmosphere, or precipitated from it, or abstracted therefrom to solid bodies.”

It has been urged in reply, that this is equally the case with miasm and vitiated air of all kinds, which last, this author himself has endeavoured to prove, is the source of contagious fevers. But this answer is not correct, the fact being, that organic matter in a state of decomposition, or progressive transformation, is present in both. We shall hereafter adduce evidence of this fact with regard to miasm. As to its presence in aerial contagion Liebig states that—“all the observations hitherto made upon gaseous contagious matters prove that they also are substances in a state of decomposition. When vessels filled with ice are placed in air impregnated with gaseous contagious matter, their outer surfaces become covered with water containing a certain quantity of this matter in solution. This water soon becomes turbid, and in common language, putrefies; or to describe the change more correctly, the state of decomposition of the dissolved contagious matter is completed in the water. The odour of gaseous contagious matters,” says the same author, “is generally accompanied by ammonia, which may be considered in many cases as the means through which the contagious matter receives a gaseous form. . . . Ammonia is very generally produced in cases of disease; it is always emitted in those in which contagion is generated, and is an invariable product of the decomposition of animal matter. The presence of ammonia in the air of chambers, in which diseased patients lie, particularly of those afflicted with a contagious disease, may be readily detected; for the moisture condensed by the ice in the manner just described, produces a white precipitate in a solution of corrosive sublimate, just as a solution of ammonia does. . . . By evaporating acids in air containing gaseous contagions, the ammonia is neutralised, and we thus prevent farther decomposition and destroy the power of the contagion that is its state of chemical change.”

“To this decisive proof of its presence may be added the fact of its being frequently recognized by one of the senses, that of smell, in those cases in which it has proved active as a poison. For instance—a gentleman in this neighbourhood not long since passed through a severe and lengthened typhus fever. About the tenth day of convalescence, while walking across the room, leaning upon the arm of his son, the latter was struck by the odour from his father's body; he immediately became sick at stomach, and on the next day had rigor followed by fever of the same type and duration (21 days) as his father's.”

Dr. Montgomery's† attack of fever, related by himself, gives similar proof that the aerial contagion may be occasionally recognized by this sense.

“On the 10th of August, I visited a patient in fever, and hearing from the nurse that there were spots on the patient's skin, I stooped very close to her to satisfy myself, and while so doing, I was sensible of a very disagreeable odour from the skin. At the moment, it made a considerable impression on the sense of smell, being almost as pungent as the odour from an ammoniacal salt. The smell continued in my mind all day, &c.”

It is true a sceptical reasoner might argue for the possible existence in such cases of an unhealthy locality, impure air, &c.; but much of the evidence of contagion which we possess, is free from any such objection.

* Dr. Scott Allison—Essay on Contagion.

† In Marsh's Essay on the Origin of Fever.

SECT. 2.—*The Testimony in proof of the Power of this Poison to cause Fever*—or, as it may be expressed, the proof that the disease has arisen from exposure to the emanations from the bodies of those similarly affected, requires to be of a very exact kind, since the opponents of the doctrine of infection, who, like the writer above quoted, affirm, that “those who have communication with the sick do not suffer in a greater proportion than those who keep apart,” explain the many instances in contradiction of this assertion which occur among the medical attendants, nurses, and relatives of the sick, by attributing them to the “locality,” and to “impure air,” and add, that “it is however almost entirely on such exceptions as these that the contagionists depend for the maintenance of their gloomy doctrines.”*

The great weight of the proof derived from the experience of the large fever hospitals in England, Ireland, and Scotland, has been well shown by Drs. Tweedie,† Alison,‡ Christison,§ and Davidson,¶ and the last gentleman justly observes, that “the simple relation of these facts would, with the majority of men, produce conviction that fever was at least contagious in these hospitals, provided the mind was not pre-occupied with an opposite theory.” “Certainly none but a determined anti-contagionist could resist the fact, that in the large fever hospitals of the three countries, every clerk has, during some period of his attendance, laboured under fever.

It is also ably proved by Dr. Christison, that the proportion of attacks among attendants is in the ratio of their exposure to the emanations from the sick. It being observed that, in the Edinburgh hospitals, they were affected in the following order as to frequency. 1. Nurses. 2. Resident clerks or house surgeons. 3. House servants. 4. Medical students not attached to the service of the institution. Thus, in the epidemic of 1818, of 38 nurses, only two or three escaped. Of the 15 gentlemen who filled the office of resident clerk between 1817 and 1820, only two escaped.

But, overwhelming as this argument from hospital experience appears, some have considered it open to objections.¶ It has been argued, that the typhus thus received (or rather the infection of typhus) is *factitious*, and created by causes over which we ought to have exerted due control; “that the poison can only be made effective through contamination of atmosphere under long-continued accumulation of morbid effluvia; and in fine, that the atmosphere of the patient is infectious, and not his person.” This argument receives some support from the experience of large general hospitals, which, particularly in London and Bristol, give admission to cases of typhus without its ever being observed to spread; and, from the acknowledged rarity of communication under the closest approximation among the better classes of society. It is said also that M. Louis never saw a case of communication of fever in an hospital, and Dr. Elliotson states that he never saw a case of fever infectious. It may

* Medico-Chirurgical Review, Vol. II. New Series.

† Clinical Illustrations of Fever, and Art. Fever in Cyclop. of Pract. Med.

‡ Essay on the State of the Poor in Scotland.

§ Library of Medicine. Article, Fever.

¶ Thackeray, Prize Essay.

¶ Dr. Fergusson, Edinburgh Med. and Surg. Journal, No. 112. See also a Discussion at the Royal Academy of Medicine, reported in the Medico-Chirurgical Review, Jan. 1839, in which the opinion was advocated by MM. Rochoux and Chervin, “that the disease is not communicable directly from one person to another, but is only transmissible in the way of infection, when the atmosphere around becomes loaded with the miasms which exhale from the bodies of the sick.”

however be urged in reply, that the observations of the latter eminent observers apply to a different fever—an endemial: and that the argument proves no more than that the infection of typhus is weak, compared with other infections.

But there is another kind of evidence, scarcely less decisive than that derived from the records of the large hospitals. It is thus somewhat flippantly disposed of by Dr. Davidson.

"In the outset it may be stated that we do not mean to fatigue the reader by stories about fomites, and persons who have carried the contagion about them for months or years, nor to hunt out a particular individual who has conveyed it from one town to another." &c.

Now we think it is an admirable rule "as laid down by Dr. Elliotson,"*—"That for infection to be *proved*, the individual who communicates the disease must go from the place where he resides to the spot where the healthy person is, and there give it to the latter. If the healthy person go to the sick person, and the sick person be still in the place where he was living when attacked, then no one can say that the disease which the former contracts has not been produced from the *situation*, and not from the *patient*. The disease may have arisen from contagion—from the emanations of the patient—but this is not proved. Whenever such a thing occurs as disease being produced in a healthy spot by the approach of an unhealthy person to a healthy one, or by the application of fomites to a healthy person, then it is a proof of contagion, provided the instances be sufficiently numerous, for one or two cases may be quite accidental."

The following is a fair case of importation by both persons and fomites:—"A beggar from Limerick obtained admission into a labourer's cabin for herself and a dying child. In five days after she quitted the cabin fever took place in one of the family, which consisted of a man, his wife, and five children, and in succession, within a day or two of each other, every individual sickened, and two children from a neighbouring cabin, who had attended the child's wake, took the same fever within ten days after, and communicated it to their family. The beggar (*herself in good health*) went to a farmer's house two miles distant, and obtained a lodging for the night, after her child was buried—every individual in the family (five in number) also took the fever within a few days—these fevers were all severe."†

That these cases of importation of infection occasionally exercise a very great influence in the spread of fever, we are convinced by our own hospital experience. From the middle of the year 1834 to the same period in the year 1836, scarcely a single case of *contagious* typhus was admitted into the Navan fever hospital. The entire number of *fever* cases only amounting in that time to 363, and these being all instances of epidemic gastric fever or endemial typhoid fever. In the month of July, 1836, three cases of a *new fever* were admitted together. On enquiring their history, I was told that one of them was the seventh of his family who had been attacked—the other six having died. The two men who were admitted with him came from the same neighbourhood—seven miles distant—and had both had communication with the infected family. These were cases of typhus with measly efflorescence, profound adynamia, delirium, &c.

About two months afterwards an elderly man, with six of his family, were admitted labouring under typhus fever. They were from an opposite direction, about seven miles distant. The fevers, of which these were the commencing cases, spread rapidly and widely, and such was their effect upon our admissions, that the number of fever patients increased from 363 in two years to 400 in

* Lectures by Rogers.

† Barker and Cheyne's Report, Vol. II.

1837, and 600 in 1838; when they were at their height. While these cases continued distinctly marked, and differed so much from our ordinary endemial fevers, as to be recognised at once by the nurses, as well as to be dreaded from their greater fatality and until they became merged in the epidemic of the past year, our cases of typhus were nearly exclusively derived from the districts in which these originated, or to which they had spread.

Careful enquiries were made as to the source of the epidemic in each case, and the following particulars were ascertained.

It appeared that in the first, a man had arrived in this country from America. It was stated that the voyage had been an unusually rapid one, and he had been ill the whole, or nearly the whole time. On landing, he was immediately removed to his father's house, twenty miles distant, and on his arrival there, was seen by a medical man, who pronounced his disease to be fever. He died on the second day after his arrival.

His father's house and neighbourhood was previously quite healthy; but in two days after his death, the father sickened, and, on the day following, his sister. She communicated the disease to her husband, who lived half a mile distant. He was attended by his brother, who caught the disease, and was one of the three first brought into hospital. The father was visited before his death by a brother, residing nearly two miles distant—on his return home he sickened, and in the course of his illness communicated it to his son. A brother of the importer contracted the disease, (apparently from his father,) and was sent into hospital, where he died, as did all the above, with the exception of one who was sent to hospital. In short, of the family of the importer, eight out of nine were infected and seven died.

In the course of a short time several other families, we have been informed, were completely exterminated. It spread with rapidity and fatality perfectly unprecedented and long maintained its hold in the town and neighbourhood.

We of course, have no means of determining the source from which the original case was derived; but we were much struck on meeting with Dr. Gerrhard's account* of the typhus which prevailed in some parts of America in that year, with the resemblance between this epidemic and that which he has so well described—especially in the acrid infectiousness of both.

We have not to *hunt* so far for the second case.

This man's daughter was a servant in Dublin, where she contracted typhus and died. Her brother went to see her, and remained till her funeral took place. He sickened—came home, and died of what was described to me as a long, spotted, fever.

After his death, the above mentioned seven persons sickened within a day or two of each other, and were sent to hospital. The father died; several of the others had very severe fever; typhus spread from this house, first to the immediate neighbourhood, and subsequently to the surrounding country.

These instances are by no means all of the kind that have occurred within the time mentioned, but are selected on account of their wider influence and the unequivocal nature of the testimony they afford to the infectiousness of fever.

Among the most unquestionable sources of fever, is the communication of it by fomites carried from the patient to some place previously healthy.† It is in this manner that washerwomen frequently become the subjects of fever. Dr.

* American Journal of Medical Sciences, February, 1837, and Dublin Medical Journal, July, 1837.

† Dr. Stark's Experiments on the Power of different Colours to absorb Odorous Particles, (Edinburgh Philosophical Journal, April, 1834,) shew that woolen substances constitute the most powerful fomites.

Tweedie says, "to shew that the disease may be engendered by fomites in clothing, the laundresses, whose duty it is to wash the patients' clothes, are so invariably and frequently attacked with fever, that few women will undertake this loathsome and frequently disgusting duty."

Dr. Armstrong,* an anti-contagionist, had previously noticed the same fact.

Dr. Reid and Dr. Cheyne,† inform us that, during the epidemic of 1817, not a single person of those appointed to receive the clothes of the sick, escaped the disease.

The preventive effects of an early removal of the sick is one of the strongest proofs of infection, since the same measure produces no such effect in the endemical fevers.‡ The effect of early removal of the sick and the cleansing and whitewashing of their apartments, was very remarkable in checking the progress of the disease in some families, while, from the neglect of these precautions, the number of the sick rapidly increased in others. Two neighbouring houses in Barrack-street, afforded an illustration of this remark, viz. Nos. 41, and 47. In the former the disease began in two different families, and its progress was immediately checked by early removal, cleansing, &c. In the latter, the individual first affected remained at home and died of the fever, but not before he had communicated the disease to eighteen persons in a short time.

On the effect of the early removal of the sick, Dr. Alison§ remarks, we should have little difficulty in pointing out above a hundred houses where a single case of fever has occurred, where the patient had been removed speedily, and the place cleansed, and where there had been no recurrence, &c. Dr. Ferriar|| states, "that formerly, when a fever began in the Manchester Infirmary, it was found necessary to dismiss almost all the patients. . . . but since a few rooms were built in 1792, separated from the rest of the wards for the reception of such cases, though the infection has been more than once introduced, yet by removing such patients as shewed symptoms of fever at their first appearance into the secluded ward, and preventing all communication between them or their nurses, and the other patients and servants, the complaint has been stopped; and no reason has again occurred for a precipitate discharge of patients."

But in applying these facts to the proof of the infectious nature of fever, we are again met by the argument, that under all these circumstances of crowding, &c. they only prove that a factitious atmosphere of contagion is produced, and the anti-contagionist points to instances of typhus received into the Bristol and other hospitals, and mingled among the other patients without ever spreading the disease.

Dr. Davidson's quotation from Prichard, supports this view as regards Bristol. "In St. Peter's the wards are very small, and the beds were near each other—offensive smells, often perceptible, and, under these circumstances, the disease manifestly contagious. In the infirmary the wards are lofty and well ventilated—here also the fever patients were dispersed among invalids of every description—no instance occurred of the propagation of the fever—none of the nurses were attacked, nor any of the patients infected, though lying within two feet of cases of typhus gravior." (page 12.)

From the infectious form of the disease prevailing almost exclusively among

* Lectures by Rix.

† Dublin Medical Transactions, Vol. 3; and Dublin Hospital Reports, Vol. 2.

‡ Report of Inspectors of House of Industry, quoted by Cheyne. Dublin Hosp. Rep. Vol. 2.

§ Edinburgh Medical and Surgical Journal, Vol. 28.

|| Medical Histories, Vol. 2.

the poor, it is difficult to obtain, in Ireland, a case not liable to the above objections. The following is perhaps as decisive, and as free from objection as may be.

In the month of March, 1839, an old man, with his son and daughter—all of them persons of cleanly appearance—and in comfortable circumstances—were admitted into the Navan Fever hospital. The history which they gave of their seizure was, that another son, the only other member of the family, had contracted fever, by sleeping for two nights in a house eight miles distant, in which was a person in an advanced stage of the disease. On his return home, he lay down in a fever of twenty-one days. About the 3d day after his crisis, his father sickened—on the following day, his sister, and in a day or two after, his brother. A day or two before these persons came into hospital, a young man, a cousin of the parties, was admitted. He was one of a family of *ten* living near his uncle's house. He *alone*, of this family, visited his cousin during his illness. His family shewed their caution farther, by sending him into hospital early in the disease. He passed through the same fever (typhus, severe in all, and fatal in the old man,) as the others, but no one of his large family took the disease: and on enquiry, a year afterwards, I learned that they were all still free from fever.

SECT. 3.—*Varieties in the Nature or Sources of the Poison*—The dogma of Dr. Bancroft, that the contagion of typhus*—"The original work of our common Creator must have been continued in existence by the energies of a living principle, exerted successively in the different bodies through which it has been transmitted from one generation to another,"—has met with comparatively few supporters among writers on fever. Elliotson,† Barker,‡ Roupell,§ Perry,|| and Davidson,¶ espouse this doctrine, but without adding in the least to the meagre facts upon which it is founded.

On the other hand, numerous observers assert the production of typhus under circumstances in which the existence of a fever poison derived from a person labouring under the disease, was out of the question; and therefore they have assumed "that certain physical and moral conditions may so act on the operations of the body as to cause it to generate within itself that which produces the phenomena of fever, independent of any exterior poison."

Dr. Ferriar** thus enumerates the circumstances, under the combined action of which fever has been observed to rise spontaneously.

1. Want of fresh air.
2. A deficient or improper diet.
3. Want of cleanliness, and chiefly, want of a proper renewal and change of clothes.
4. Anxiety and depression of spirits.

The second and fourth of these are probably the essential causes of the generation of the poison, and the others assist by producing its accumulation—as in typhus—the diseased emanations constitute the poison; which, however, is all but harmless, unless accumulated.

The following graphic sketch of fever, thus originating, is given by Dr. J. Hunter.†† In the month of February, 1779, I met with two examples of fever in the lodgings of some poor people whom I visited, that resembled in their symptoms the distemper which is called the jail or hospital fever.

* On Yellow Fever.

† Lectures, by Rogers, page 296.

‡ Dublin Medical Transactions, Vol. 2, p. 595.

§ On Typhus.

|| Dublin Medical Journal, Vol. 10.

¶ Prize Essay.

** Medical Histories, Vol. 1.

†† Remarks on the Jail or Hospital Fever, Medical Transactions, Vol. 3.

It appeared singular that this disease should shew itself after three months of cold weather. Being, therefore, desirous of learning the circumstances upon which this depended, I neglected no opportunity of attending to similar cases. I soon found a sufficient number of them for the purposes of farther information.

It appeared that the fever began in all in the same way, and originated from the same causes.

A poor family, consisting of the husband, wife, and one or more children, were lodged in a small apartment, not exceeding twelve or fourteen feet in length, and as much in breadth. The support of these depended on the daily labour of the husband, who with difficulty could earn enough to purchase food necessary for their subsistence, without being able to provide sufficient clothing or fuel against the inclemencies of the season.

In order, therefore, to defend themselves against the cold of the weather, their small apartment was closely shut up, and the air excluded by every possible means. They did not remain long in this situation, before the air became so vitiated as to affect their health, and produce a fever in some one of the miserable family. The fever was not violent at first, but generally crept on gradually, and the sickness of one of the family became an additional reason for still more effectually excluding the fresh air, and was also a means of keeping a greater proportion of the family in the apartment during the day. Soon after the first, a second was seized with the fever, and in a few days the whole family perhaps were attacked, one after another, with the same distemper. The slow approach of the fever, the great loss of strength, the quickness of the pulse, with little hardness or fullness, the tremor of the hands, and the petechiæ or brown spots upon the skin, to which may be added the infectious nature of the distemper, left no doubt of its being the same with what is usually called the jail or hospital fever. It would appear there is no great power of infection in the body alone provided the air be not confined. Remark on the exemption from this disease which warm countries enjoy, he says.—“On the cold is the cause of the air being confined which gives rise to the poison, and thus, directly opposite to the opinions usually received, there is more danger of producing this disease in a cold country, and in a cold season of the year, than in a warm one.”

A person exposed to and living in the poisonous air becomes feeble and irritable, his sleep is disturbed, his tongue is white in the morning, his appetite is impaired, and the smallest bodily exertion quickens his pulse and fatigues him. He will remain in this state for weeks together, without any formed attack of fever: yet another receiving the infection from him, shall suddenly be seized with a violent disease. In this manner it is, I much suspect, that prisoners brought into a crowded court often produced the most dreadful consequences, by disseminating the infection lodged in their clothes. An instance of this kind is given by Dr. Fordyce,* which deserves mention. Arguing for a distinction between this poison and putrefactive poisons, he says—“This is undoubtedly not the case, since infection has arisen from a person brought out of rooms in which numbers had been confined for several months, but kept clean from all putrescent matter, so that there was no particular smell or other sensible quality. In one case that came under the observation of the author, a person under such circumstances, from whom no peculiar smell arose, or any other sensible effluvia, communicated the infection to four others with whom he was carried in a coach for about half a mile, so as to produce fevers in all of them, which fevers were violent and fatal.”

Dr. Ferriar properly includes *moral* causes—“because it is not proved that the mere confinement of the effluvia of clean and healthy persons, free from

* On Fevers, Dissertation, I. page 114.

mental uneasiness can become poisonous. This view derives considerable support from the following remarkable case by Dr. Harty, of the origin of fever from a single person under such circumstances.

A gentleman* was suspected of having confined and ill-treated his wife. At length two gentlemen, one of them a clergyman, having obtained the necessary authority, visited the house, and examined every apartment for the wretched object of their humane search—at first in vain; but at length a small closet door attracted their notice, and having insisted on its being opened, both gentlemen eagerly entered, and as precipitately retreated. One was immediately seized with vomiting; the other (the clergyman) felt sick and faint. After a little, they recruited and called the wretched woman from her prison hole, in which she had been for weeks immured. It was a small dark closet without *light* or *air*, and in it she had been immured without a change of clothes. At the end of a week both gentlemen had fever; both took to their beds almost on the same day. The clergyman died, and the other recovered with great difficulty after a severe struggle. Both cases were alike throughout, except in the termination. The woman had not then or afterwards any febrile disease, and had been free from any at any period of her confinement.

Bursts of fever from this cause occur, at times, in situations where no possibility of contagion from without exists—as in prisons, in surgical hospitals, and in situations in which typhus does not usually prevail and has not been introduced from without. Dr. Harty gives unequivocal testimony of this fact, derived from his experience in the Dublin prisons. For cases occurring in crowded wards of hospitals during cold weather, we may refer to Palloni,† Currie,‡ Tweedie.§

Dr Ferriar|| gives a decisive instance of fever arising in the habitations of the poor from this cause at Carlisle in 1778–9. We must be content to refer the reader who may be desirous of sifting the evidence on this much disputed question, to the above writers, as a recital of the cases would occupy too much space. It cannot be doubted that this depraved atmosphere has been sometimes considered as a source, when really it only favoured the diffusion of the fever poison, whether emanating from the bodies of typhous patients or from palludal sources. We shall have occasion to recur to this subject when examining the circumstances which favour the diffusion of fever as an epidemic disease. At present it may be remarked that, the writers on both sides of the question, have relied in some instances, upon exceptionable proofs. Thus Dr. Peebles, in his valuable paper, adduces several cases which occurred on board ships, which are seldom free from some of the palludal sources. It is also sagaciously remarked by Lind, that it is in ships going from home, and not in those returning from the longest voyages, that fever is found. The reason is obvious.

But if weak cases have been adduced in proof of the origin of fever from this source, they have equally been relied on by the great opponent of the doctrine and his followers. Dr. Bancroft has rested much of his argument upon the fact, that on board slave ships, where the crowding was unprecedentedly great, fever was unknown.¶

But, as has been well observed by Dr. Fergusson,** there are two good reasons for this.

* On Fevers, page 163.

† Quoted by Dr. Peebles, *Edin. Med. and Surg. Journ.* No. 125.

‡ *Medical Reports*, page 6.

§ *Clinical Illustrations*.

|| *Medical Histories*, Vol. 1.

¶ On Yellow Fever, page 127, &c. It is worthy of notice, that in the passage quoted from Dr. Lind (page 128), the liability of felons in transports to fever is asserted.

** *Edinb. Med. and Surg. Journal*, No. 112.

1st. The absence of all fomites—the wretches being naked there was nothing to retain the effluvia.

2nd. The high temperature, which is always destructive of the poison of typhus.

The absence of fever from the huts of Fins and Russians, may be explained in a similar way, by the high artificial heat constantly kept up in them, and the total absence of moisture. None of the advocates of exclusive contagion, from Bancroft to Davidson, add any facts to the meagre evidence upon which the argument is founded. The enquiry is altogether one of the most important connected with the subject of fever, and bears strongly in its consequences upon science and humanity.

For if it appear that the poison of typhus can be generated *de novo*, under the conjoint action of the above-mentioned moral and physical causes, we should institute enquiries as to the part which each performs in the production of this result, and without wishing “*to get rid of a difficulty*,” we should, on other grounds than our inability to trace contagion to its primordial source, pursue the investigation of its laws, disregarding any such affectation of strict logic as is contained in the following passage.* It is not intended, however, to enter into any speculations respecting the primordial source of the contagion of typhus, for the sources from which it, as well as that of the other contagious fevers originated, are involved in absolute obscurity; and though we could trace them to the most remote era in antiquity, the same difficulty would be encountered. Some authors, apparently to get rid of this difficulty, and to account for the occurrence of typhus, where no contagion could be traced, have adopted the opinion, that it may be generated by common causes, such as impure air, filth, &c. and be afterwards capable of propagation by contagion. *The argument of analogy is directly opposed to this belief, for if in nature there be no exception to the law, that two causes are never required to produce precisely the same effect, it will follow that, whatever cause can be best reconciled with the phenomena of typhus, must be considered the true source of the disease.* And accordingly this writer proceeds to return a hasty verdict of “not proven,” upon the claims of every cause but this “one true source,” contagion.

The following remark of the venerable Dr. Stokes upon this subject is too apposite to be passed over without notice. “This supposition of a *single cause* of the effects we witness, is quite unsupported by nature. Every animal, every plant, every rock, requires for its production the co-operation of many causes that we know, and most probably of many more that we have not yet discovered. All nature depends ultimately on a single cause, but it has pleased the Almighty to cause that the effects which concern us immediately should arise from the co-operation of several of his creatures.”†

Again, if it appears that the febrile poison can be thus generated, we need not follow Dr. Barker‡ to the Continent of Europe to look for it. Nor need we to accompany§ Dr. Lombard upon his geographico-typhoid tour in proof that the frieze coat of the Irish labourer is its depository, in which it is exported like other “native manufactures.”

* Davidson, page 2.

† Essay on Contagion, page 25.

‡ Dublin Medical Transactions, Vol. 2.

§ This notion of Dr. Lombard's, along with an opinion expressed by Mr. Farr, in the article Vital Statistics, in McCullagh's Statistics of the British Empire, “that the poor Irish are keeping up, if they are not introducing, the fevers of their wretched country in the heart of the British cities,” has been met by Dr. Cowan, and by an acute reviewer in the Dublin Medical Journal for January, 1838. But the latter, while he confers a merited castigation upon Dr. Lombard, bears too hard upon Mr. Farr, whom he classes with certain humane political economists who wrote that it would be well that Ireland were sunk in the

But the question has a great bearing upon humanity and political economy. Take the case of an epidemic such as has prevailed in Ireland during the past year. Suppose that in a town containing a great number of poor in which fever perhaps has not yet appeared, the inhabitants meet to confer upon the best preventive measures. These will differ as their views of the sources of the disease differ; one may suppose that the contagion is in all cases *imported*, and can see no protection except in a "cordon sanitaire."

Another believes that fever is exclusively of *endemic origin*, and he says—make sewers, sweep away the dung-hills—white-wash the houses.* While the man *alone* who conceives the generation of the poison under the foregoing circumstances possible, will recommend the true prophylactics, and, by providing clothing and fuel, cause the light and air to be admitted into their crowded dwellings, and by relieving mind and body from the pressure of impending starvation, will both render them less susceptible of disease *if* it approach them, and less capable of generating in themselves the poison which he believes may arise among them without exterior communication.

On this question it is impossible to speak of humanity and political economy apart. The following extract from Dr. Alison's essay on the management of the poor in Scotland, will prove how even motives of economy should lead to the application of the true preventive-relief of the wants of the poor.

"A fever which consigns thousands to the grave," says Dr. Harty, 'consigns tens of thousands to a worse fate—to hopeless poverty; for fever spares the children and cuts off the parents, leaving the wretched offspring to fill the future ranks of prostitution, mendicancy, and crime.' 'The mortality of fever,' says Dr. Barker, 'is most frequent where it is most injurious, viz. in men advanced in life, the heads and supports of families, the increase of poverty and mendicity, and the agonizing mental distress to which it must give rise, are consequences which must occur to every reflecting mind.' There is no exaggeration in the simple and impressive statement of Dr. Cowan—that 'the prevalence of fever presents obstacles to the promotion of social improvement among the lower

sea. And says there is not the slightest evidence that the labouring classes *introduce* fever into the heart of British cities. Probably not. In the case of Glasgow, Dr. Stuberoh's paper, Dublin Journal, No. 39, would seem to shew that they do not—at least by *importing it*. But in an able and temperate reply in the second edition of McCullagh's book, Mr. Farr has shewn that, in the three great avenues by which the Irish labourers enter the kingdom—Bristol, Liverpool, and Glasgow, their crowding to excess in lodging-houses, their loathsome diet and filth, are productive of epidemic fever, and he concludes with the following wise remarks.

"In directing attention to a weighty sanitary fact, it is far from our intention to convey any reflection upon the Irish people. We shall, in treating of epidemics, shew that the English were formerly in as bad a condition as the Irish, and we must say we had imagined that any attempt to prove that England is vitally interested in the prosperity and happiness of Ireland, would be rendering neither country disservice. . . . Reduce your neighbours to ruin and starvation, and you inevitably give rise to diseases which lower like avenging angels over your own heads. . . . So God avenges oppression; it reaps the fruits of its own handiwork.—(McCullagh's Statistics, Vol. 2nd. p. 529).

* See Sanatory Reports of Poor Law Commissioners, p. 14, and Report of the Select Committee on Health of Towns, p. 111.

Also the following passage from a Report of Dr. Addison's Essay on Malaria, Lond. Med. Gazette, vol. 3, N.S. p. 796.

"He thought that if any *palladium* could be discovered potent for the salvation of the city, it would be found in the shape of a *scavenger*!"

classes, and is productive of an amount of human misery credible only to those who have witnessed it.' In the last situation in which I have seen fever prevailing epidemically in Edinburgh, (new land at the foot of the old fish market close) I find, on enquiry, that five families out of the inhabitants of twelve rooms in the two upper flats of the house, have been rendered fatherless by it." p. 9.

We could parallel these cases in this town, but it is unnecessary. There is one more consideration arising from this subject—it is a selfish one, and therefore not the least powerful—it is contained in the following profound reflection of the excellent Ferriar. "The diseases arising from wretchedness differ in this respect from those of luxury: the first are generally *infectious*, the latter solitary but *hereditary*. This observation would furnish an excellent moral, but as it is needless to suggest it, I pass on to my next point."

SECT. 4.—*The Mode of Action of the Poison, and the Circumstances which assist its Operation in the Human Body.*

The opinions of the majority of physicians of the present day are divided, as to the *theory of fever*, into two parties—the solidists and the humoralists.

That of the former party is thus announced in the article fever, Library of Medicine, by Dr. Christison. "The theory of fever, then, which seems most consonant with the whole facts, with the general sentiments of the profession, especially in Britain, and with a sound and prudent practice, is probably the following. Fever is an essential or primary disease. The first appreciable event in the chain of sequences constituting fever is a functional injury of the nervous system. The only essential or invariable consequence of this affection is functional derangement of most of the important organs of the body, but more especially of the brain, the circulating organs and fluid, the alimentary canal, and the skin. The changes which have hitherto been observed to take place in the blood and other animal fluids, are, like the local disorders, secondary and not primary. They may be the source of the phenomena remarked in the advanced stage of the disease, but they are not the source of the disease itself in the first instance."

If we turn to another recent work of high authority, we find the very reverse order of sequence is maintained. "It appears probable, if not certain, from what has been advanced, that in a certain class of fevers (typhoid) the blood is *primarily* diseased, and that certain changes in one or more organs take place as a consequence or secondary effect."*

It will be seen that neither of these distinguished writers assigns the phenomena of fever exclusively to his system; and it has been well remarked, "that all febrile disturbances are disturbances of such vital actions as are the *joint* product of these two great factors of vital phenomena—for example, the primary phenomena of all fevers are—1, disturbance in the formation of animal heat; 2, disturbance in all the secreting functions; 3, disturbance in the process of nutrition. But the formation of animal heat, secretion, and the nutritive process, are all dependent on the conjoint action of the nerves and blood-vessels. Either of these two systems may receive the first morbid impression, but the one soon participates in the changes of the other."†

This last sentence involves the proper terms of the controverted question, for, while all must admit that the phenomena of fever *established* are due to the conjoint operation of the nervous system and the blood, the solidists maintain that it is upon the nervous system the morbid impression of contagion acts primarily; while the advocate of a modified humoral theory holds that the source and primary seat of typhous fevers, properly so called, is proved to be in

* Dr. Tweedie. Art Fever. Cyclopædia of Practical Medicine.

† Ferguson on Diseases of Women Part 1. P. 97.

the blood; and that the order of sequence is, first, a vitiation of the blood by the commixture of deleterious substances; next, in consequence of such vitiation, an alteration of the functions of the nervous system; and, lastly, the blood that supports the organs, and the nervous system that animates them, having suffered a general injury, a constant though not always appreciable modification of these organs in their function or in their texture."

The advocates of each theory construe the phenomena of the latent period in accordance with their peculiar views: thus, while the humoralist regards it as the time intervening between the absorption of the poison and the manifestation of its effects on the great nervous centres—the advocates of the opposite theory consider that "the symptoms which characterise this period, whether they be slight, or whether they be severe, indicate a disturbance affecting primarily the nervous system *"

Again,—“We are not of opinion that the time between exposure to contagion and the formation of the disease thereby caused, is a period of health: the nervous system was affected previous to any disorder of the circulating system.”†

From these extracts it will be seen that it is to the explication of the phenomena of the access and latent period of fever, and not to the *formed* disease, that each theory is to be applied, and its agreement with these phenomena tested.

This narrowing of the question deprives the humoralist of all support from the fact of changes detected in the blood subsequent to the latent period, since these may be owing to the changes in the nervous system; while, on the other hand, it reduces the available arguments for the nervous theory to two. That from the analogy of the morbid impression of contagion to the action of certain poisons—"such instantaneousness of action being supposed to be incompatible with the previous absorption of a poison into the circulation;" and, that deduced from the fact, that "a single mental shock often produces protracted disease, without the presence of any known source of the febrile poison."

By thus limiting the dispute, much is given up by the humoralist; since he holds, "that the fluidity or diffidence of the blood, and the violent colour observed in typhus, is not the result of the disease, but, on the contrary, that they are the immediate effects of the specific cause of the fever;"‡ while, on the contrary, it is on the phenomena of the access that the very strongest arguments for the nervous theory are founded.

Passing by the many writers who have rested satisfied without stating their opinions of the origin of fever, without giving the grounds upon which they are founded, we shall examine the arguments for the nervous theory contained in Sir H. Marsh's able paper on the Origin of Fever,|| which are rested upon a number of histories of the access of the disease, which Dr. Tweedie has pronounced to "contain a body of evidence which should alone decide the question of the contagiousness of fever."

It will be our endeavour, as advocating a humoral theory, to show that the evidence does not support the conclusions of its distinguished author. These conclusions are founded upon a supposed analogy of the morbid impression of contagion (or infection) to the action of certain powerful narcotic poisons which is *supposed* to be exerted upon the nervous system immediately, and not through the circulation. "Though there can be little doubt," says he, "that

* Marsh. Dublin Hospital Reports, Vol. IV.

† Barker and Cheyne's Report.

‡ Vide Rostan's Clinical Lectures on Typhoid Fever, in Johnson's Review for January, 1841.

|| Dublin Hospital Reports. Vol. IV.

prussic acid, when applied to the surface of the body, is ultimately absorbed, yet the rapidity of its action leads to the conclusion, that its first and instantaneous effect is on the nervous system." And Dr. Law, in arguing for a *mental* origin in one of his cases, in which the person was exposed to contagion before and at the time of seizure, says, "How are we to explain the mode of this individual's attack of fever? If we are to suppose it was contracted from exposure to contagion, we would avail ourselves of the argument of the toxicologist, who reasons that, from the very short period of time in which some poisons exhibit themselves in the system, these poisons affect the system through the medium of the nerves, rather than through the circuitous route of the circulation."

This theory of poisons being assumed, the analogy of the action of infection is thus stated by Sir H. Marsh. "From these facts it appears that the poison of contagion produces its effect *with the same rapidity as the narcotic poisons to which we have alluded*. Headache, debility, sickness of stomach or vomiting, are among the symptoms first perceived; these sensations, with the rapidity of an electric shock, are at the instant produced," &c.

This specious argument from analogy will be somewhat weakened by the following considerations:—

1. It is by no means proved, that any poison, however rapid, produces its effects upon the system, without being received into the general circulation, or before it can be carried to the brain through the medium of the circulation.

Müller's* conclusion upon this question is—"These experiments, as well as many others, instituted by well known physiologists, prove that, before narcotic poisons can exert their general effects on the nervous system, they must enter the circulation." And again,—“The rapid effects of prussic acid can only be explained by its possessing great volatility and power of expansion by which it is enabled to diffuse itself through the blood more rapidly than that fluid circulates; to permeate the animal tissues very quickly, and in a manner independent of its distribution by means of the blood, and thus to produce the peculiar material changes in the central organ of the nervous system more rapidly in proportion as it is applied nearer to it.” But even this explanation of Müller's—while it falls very far short of furnishing the desired analogy—would seem in correct, since Mr. Blake has found that the poisonous effects of prussic acid in a large dose introduced into the stomach will not take place so long as the circulation through the vena porta is carefully interrupted. He even found that, on the effects of the poison being produced by removing for an instant the impediment to the circulation, the animal could be recovered upon the circulation, being again stopped, though the three drachms of prussic acid was still in the stomach. Mr. Blake's conclusions from his interesting experiments are†—

1. That the time required by a substance to permeate the capillary vessels may be considered as *inappreciable*.

2. That the interval elapsing between the absorption of a substance by the capillaries and its general diffusion through the body may not exceed nine seconds.

3. That an interval always more than nine seconds elapses between the introduction of a poison into the capillaries or veins and the appearance of its first effects.

4. That if a poison be introduced into a part of the vascular system nearer the brain, its effects are produced more rapidly.

5. That the contact of a poison with a large surface of the body is not suffi-

* Elements of Physiology, by Baly. Vol. I. p. 246.

† Edinb. Med. and Surg. Journal, Vol. 53,

cient to give rise to general symptoms, as long as its general diffusion through the body is prevented.*

But secondly—the *suddenness of action of the febrile poison is generally speaking only apparent and not real.*

The infection of continued fever (says Christison) is, for the most part, by no means virulent. And again—fever is usually communicated by long exposure to the emanations from the sick, and seldom by any single short exposure, however decided. It is a common notion that single, brief, decided exposures often occasion an attack; and, in support of this notion, reference is made to cases where individuals can trace the infection, as they imagine, to a particular fever patient, by having experienced some very peculiar morbid sensation at the time of exposure. There is much room for fallacy, however, in observations of this kind, and besides their proportion is small compared with the far more numerous instances where no such sensations can be recalled as having ever been experienced.

It is unnecessary, though it would be most easy, to multiply testimony to the same effect. Even Dr. Marsh says very truly, that “by far the greater number of patients labouring under contagious fever, are not at all aware of the circumstances connected with the origin of their complaint; the impression made at the time of their exposure being in general unheeded or forgotten. Indeed the impression is often times so slight, as to lead one to think that contagion does no more than predispose to fever, and determine the nature of the disease, of which, exposure to cold, fatigue, or some such accidental circumstance, is the immediately exciting cause; so that there appears much reason to believe that, many are so mildly affected, that, were it not for the superaddition of an exciting cause, they would altogether escape fever; hence it happens that numbers affected with contagious fever, trace the origin of their complaint exclusively to

* Sir H. Marsh states, that in some experiments performed by himself and Dr. Jacob, the poisonous effects of prussic acid were observed to commence in five seconds; there is therefore a discrepancy between his results and those of Mr. Blake, but the following experiment of the last gentleman would seem to show that even this short time would allow of the entrance of the poison into the circulation.

“A drachm of the strongest liquor ammoniæ, mixed with five drachms of water, was injected into the jugular vein of a dog. A glass rod which had been dipped in hydrochloric acid, was held immediately under the nostrils; four seconds after the introduction of the first drop of the solution of ammonia into the vein, it was plainly detected in the air expired from the lungs, by the white vapours that were formed upon its coming in contact with the vapour of the hydrochloric acid.”

Dr. Christison's experiments on prussic acid (at page 657 of his work on Poisons,) do not support Sir H. Marsh's views of the extreme rapidity of action of this poison. While at page 660 he admits that every argument but this is in favour of the theory of its action through the blood, *in which* it was detected by analysis in the case of a cat killed in a few seconds by the acid applied to the tongue.

But in the text I have neglected to notice the fact, so prejudicial to Dr. Marsh's analogy, that the blood in these cases of sudden poisoning is *fluid*. We are also told by Dr. Christison, that in cases of sudden death from the emanations from Parisian privies, the blood is found *black and fluid*.

A similar effect is observed in cases of sudden death from other kinds of miasm—for an instance from animal putrefaction. see the Medico-Chirurgical Review, for January, 1825; and for an instance from marsh miasm, see Evans on the Endemic Fevers of the West Indies, p. 22.

cold, wet and other exciting causes of the disease, the time and circumstances of exposure to contagion having been entirely forgotten. Cases of this kind, *which are by far the most numerous*, throw but little light on the origin of fever. It is only by a careful observation of facts of occasional and rare occurrence, such as those recorded in this paper, in which the effects of contagion are well marked and striking, that we can hope to obtain certain and satisfactory results."

There is much truth in the foregoing passage, especially in that part of it which assigns to contagion the action of a *predisposing cause*; but how can this view be reconciled with Dr. Marsh's own theory, that the action of contagion is an "injurious impression upon the sentient extremities of the nerves?" and how far is he justified in assigning the *cause* and *commencement* of fever to sudden and brief exposure, even by cases of rare occurrence, (exceptions he admits to the general rule), such as he has collected? These are questions deserving consideration. We shall return to the first when examining the argument for the humoral theory derived from the latency and cumulative property of the poison; but how do Dr. Marsh's cases support his opinions as to sudden exposure being the *cause* of fever? It is obvious that when it is committed, that the general rule is, "that no perceptible impression is made by contagion," we cannot admit the conclusion that the impression was the cause of the disease, except it appears that no other exposure took place; the more so since the medical and other attendants of fever patients in private houses, and where cleanliness and ventilation are properly observed, frequently perceive these impressions—arising from the odour of the patient or his excretions;—such impressions, however *sickening* at the time, seldom leading to any further ill-consequences; but of twenty-two cases adduced by Dr. Marsh, ten were nurses or porters of fever hospitals, seven were physicians, one a clergyman, and one appears merely to have suffered the nervous shock, as fever did not follow.

The remaining three appear to be unexceptionable instances of fever, arising from a single and concentrated dose of the poison, two, if not all of them being cases of communication by fomites, (usually containing a concentrated poison.)

But again, we have to inquire whether the moment of exposure was that of the *commencement* of the fever? since the argument rests mainly on "such instantaneousness of action of the poison as is incompatible with the idea of absorption into the blood." Here we might remark on the rapid diffusion of gaseous poisons through the blood, and appeal to Mr. Blake's experiments in proof that the poison may enter the circulation even before the impression is felt; but admitting that this impression is a purely nervous one—a shock, or "reaction," as it has been termed—"a resistance offered by the vital powers to chemical action"—it is *not* the commencement of fever. For it may end where it began; the impression may not, and very often is not followed by fever; and in many more cases goes off altogether for a longer or shorter period before fever commences. True, it may continue, especially in persons whose imagination has become alarmed—in which case some writers have attributed the imagination to the influence of the poison upon the nervous system—and in a manner hereafter to be explained, it may shorten considerably the latent period; but we repeat, this latent period will be found to exist in any case in which a *previous* imbibition of infection is not to be admitted. "The symptom," says sir H. Marsh, "which is generally considered to mark the commencement of a febrile movement in the system, is that commotion of the nervous functions which has been technically termed a *rigor*." The commencement of the *febrile movement* is only mentioned in twelve of his cases, and in these it occurred in four at an interval of from one to two days, in six after several hours, and in two only it is said to have come on "a short time after" exposure to the poison.

The third consideration which may be urged against this analogy is, "that the poison with which contagion is compared is not *reproduced*." As this reproduction of contagion is one of the strongest arguments for the humoral theory, we

shall not dwell upon it here, but merely observe that the toxicological argument, while it sets up a forced and false analogy with poisons which are not reproduced, strives to weaken and destroy that which naturally exists between the infection of typhus and that class of morbid poisons to which it may be said to belong—the exanthemata. This has not escaped Dr. Marsh's observation, who admits that "the opinion that to maintain a protracted fever, an internal cause of disease (such as absorbed or generated morbid matter) is necessary, would arise from the phenomena which manifest themselves in the course of an exanthematous fever." But he meets this by the second of the objections we have enumerated to the humoral theory.

"Yet that to excite and maintain continued fever, an *abiding* cause is *not* necessary, might be proved in various ways, but the fact that a *single* mental shock often produces protracted disease, is decisive upon this point."

As Sir H. Marsh adduces no fact in support of the above assertion, we turn to another able physician who, in a recent paper, adduces seven cases from his own experience, in proof of the opinions expressed in the following passages: *

"We quite agree in the wisdom of the precaution of satisfying the absorbents, but deny that they are more the channels through which the morbid matter enters the system, in this instance, (fever from contagion), than they are in other cases where there is no reason to suppose either that they are in an unusual state of activity, nor if they were, can we discover any contagion to serve as a *materies morbi* for them to exercise themselves upon. These are cases in which a strong moral impression acts as a direct and immediate cause in the production of a fever, similar in all respects to one from contagion," &c.

And again:—

"We shall proceed to detail some cases of fever which seem to us calculated to throw some light upon the mode in which the first morbid impression is made upon the system in the production of the disease; and see how far these cases tend to confirm the opinion that fever is the result of a miasma conveyed to the system by the absorbents: or if it be not, in some cases at least, the effect of a *moral impression* acting upon the nervous system, and exhibiting itself in symptoms indicating a derangement of the functions of this system."

The advocate for the theory of absorption may reasonably require that in such cases the *materies morbi* shall not appear to have been within reach. But of five cases the subjects were exposed to infection, at or before the seizure. The sixth was not (as Dr. Law admits) a case of fever; and we have only one in which fever followed a mental shock, without evidence of infection at the same time existing. To explain away this case, a determined opponent of the nervous theory might adduce evidence of the general diffusion of the fever-poison through the atmosphere of a city, when fever is prevalent in it: he might maintain that at such times † "certain changes take place in the constitution of the atmosphere imperceptible to our senses, and eluding chemical tests, which predispose human bodies to febrile diseases in such a way, that circumstances which in ordinary times would only give rise to a catarrh, an attack of rheumatism, or even occasion no indisposition at all, will now in many individuals become the exciting causes of continued fever."

If it be said that this is begging the question, the humoralist takes higher ground, and asserts that such cases, instead of disproving, strengthen his own theory; inasmuch as he can shew that fever follows strong nervous impressions, in consequence of their lowering the vitality of the blood, and so favouring the transformations in that fluid upon which fever depends. He believes that ‡ "no other component part of the organism can be compared to the blood in respect of

* Observations on Fever, by Dr Law. Dublin Med. Jour. Vol. XIV.

† Prichard, on the Epidemic Fever of Bristol.

‡ Liebig, p. 360.

the feeble resistance which it offers to exterior influences. The blood is not an organ which is formed, but an organ in the act of formation; indeed, it is the sum of all the organs which are being formed. The chemical force and the vital principle hold each other in such perfect equilibrium, that every disturbance, however trifling, or from whatever cause it may proceed, effects a change in the blood. Every chemical action propagates itself through the mass of the blood; for example, the active chemical condition of the constituents of a body undergoing decomposition, fermentation, putrefaction or decay, disturbs the equilibrium between the chemical force and the vital principle in the circulating fluid: the former obtains the preponderance. Numerous modifications in the composition and condition of the compounds produced from the elements of the blood, result from the conflict of the vital force with the chemical affinity in their incessant endeavour to overcome one another."

He admits that "perhaps there are cases in which the modification of the blood is only secondary to a modification of the nervous system. If for instance, under the influence of a strong mental emotion, this system being suddenly perverted in its action, ceases to exert its proper influence over the different organs in which the blood is elaborated, deposited, and receives new materials, must not that fluid itself become altered in its turn? If so, thence must arise a number of organic and functional derangements varying greatly, according to the mode and intensity of the primitive alteration of the innervation. In such cases we may observe to occur sporadically those same diseases, typhoid or other, that we have just now seen prevailing epidemically under the influence of manifest causes of infection of the blood."

To prove that Dr. Law's case belongs to this formula, let us place it by the side of another in which *precisely* the same mental impression, acting more intensely, produced death. Eliza J—, æt. twenty-six, was admitted under Dr. Law's care, March 28, 1836. She had been in perfect health a week since, when, on missing a piece of linen which had been committed to her care to make shirts, from the apprehension that her honesty would be called in question, she was seized with a violent rigor and sickness, which confined her to bed ever since. Petechial fever, with prominent hysterical symptoms, followed. She recovered with difficulty and slowly.

Sometime ago, I was present at the examination (*post mortem*) of a man who died suddenly under the following circumstances.

He had committed a very trifling theft, for which he was apprehended and carried before a magistrate. He was a person rather above the lower order, and manifested great shame and grief at this exposure. While sitting before a table waiting for his case to be called on, he leaned his head forward on the table and was observed to snore; in a few minutes, the sound of his breathing ceased, and on raising his head, those near him found that he was dead. It was supposed, that apoplexy was the cause of death, and the brain was first examined. It was, however, perfectly healthy. The other viscera were then carefully examined. The only one which discovered anything which could account for his sudden death, was the heart, which was distended with *dark fluid blood*.

Let us suppose that the mental impression had not been so intense in this case, and the life of the blood not so completely and suddenly destroyed,—what would have been the probable consequence? This question is answered by a comparison of the two histories. In the last, the vitality of the whole circulating mass was destroyed, and the symptoms were those of a brain suffering the influence of a *strong narcotic poison*. In the other, the livid, petechiæ, spongy, and bleeding gums, &c. showed to what an extent the vitality of the blood had been destroyed. The immediate occurrence of a rigor shewed that the self-generated poison had

* Andral. Pathological Anatomy, Vol. I. p. 671.

reached the nervous centres, and that the 'struggle had commenced which was to end with either the death of the whole mass of blood or the elimination from it of the portion so affected. It is worthy of remark, (and is noticed by Dr. Law) that the rigor was immediate,—not after an interval of hours or days, as in cases of exposure to infection, in which the operation of the poison is gradual and often (generally, indeed,) accumulative.

In fine, typhus, or a disease resembling it, but differing, according to Dr. Cheyne, in the very important particular that it is not communicated by contagion—in other words, that the poison is not *reproduced*—is but one of three modes, or degrees, in which the blood suffers from a strong mental impression. It may be killed at once, or it may suffer in a degree insufficient to produce *formed* disease—loss of appetite and depraved secretions, with slight derangements of animal heat, being perhaps the only indications of injury it has received,—or it may act upon the system in a manner similar to the fever poison. But this cannot be said to prove that the fever poison acts by producing a moral impression; and, therefore, instead of agreeing with Dr. Law, that "even in cases where there was most reason to suspect absorption, where a person having exposed himself to contagion, fasting,—and then contracted the disease,—even here the symptoms exhibited by the disease so resemble those where there is no possibility of suspecting infection, that we cannot but believe that the mode of absorption is the same in both cases, and that as it is not absorption in the one case, neither is it in the other,"—instead of going to this length of denying the existence of a *materies morbi* altogether, we would reduce the two cases to the same formula by an opposite method. As thus: violent nervous shocks kill the blood or modify it, and occasionally produce fever. Contagious and other miasms also, in some rare instances, kill the blood, and, in, general, modify it, so as to produce fever. But they may do so without causing a nervous shock. Therefore, they act *directly* on the blood, by being absorbed into that fluid and not through the intervention of any derangement, functional or otherwise, of the nervous system.

The principal arguments for the nervous theory derived from the the mode of access of fever, having been examined, we shall submit some of those which tend to support a modified humoral theory, and then offer a rationale of the action of the *causes* of fever in accordance with this theory.

The explication of the accession of the disease having been taken as a text of the opposite theories, we are deprived of any support from two arguments which have been much used by humoralists: viz. the changes which the blood undergoes in the course of fever, and the production of fever or a disease perfectly analogous, by the introduction of substances into the circulation.

Another argument, of a similar kind, is derived from the known powerful sources which ordinarily produce fever, to kill the blood at once when their poison is introduced into it in sufficient quantity. We give the fact on the highest authority.* The inference has been met by the toxicological argument already considered, and by a distinction asserted between mephitic poison and the fever poison. This distinction we shall examine along with the source itself, hereafter.

But there are certain peculiarities in the action of the febrile poison which in their general character resemble other morbid poisons, and favour the idea of its absorption into the blood.

The first of these is its occasional latency in the system, in which it will lurk for a longer or shorter period, until called into action by some accidental cause.

"In several instances," says Dr. Graves,† "I have observed that certain diseases, which seemed to have been lurking in the constitution, may suddenly

* Christison on Poison, p. 700, 2nd edition.

† Lectures, London Medical Gazette, vol. III. N. S. p. 186.

make their appearance in consequence of the operation of causes apparently unconnected with the disease in question. . . . I have witnessed several bad cases of bad secondary venereal, in which the attack was traced to excessive fatigue, or a common cold. You will also meet numerous examples of an analogous fact among fever patients; examine them, and you will learn that in a majority of cases their disease arose from exposure to cold. One person fatigues himself by too much exertion in business, and gets an attack of spotted fever; another attributes his disease to over-anxiety; some to intemperance, and some to fright. In all these cases, it is very probable that the poison of fever has been lurking for some time in the system, and has been called into active existence by the operation of some sudden accidental cause, as fright, fatigue, intemperance, or cold."

Something similar, Dr. Graves justly observes, is remarked in the case of the Irish labourers employed during summer and autumn among the fens of Lincolnshire (and we may add Cambridgeshire). During their stay in England, they appear free from disease; but on their return home, if they happen to be exposed to wet, fatigue, or the derangements of health consequent on intemperance, they are very often seized with intermittent fever.

He continues, "Does it not often happen, that many of us escape fever although exposed to its contagion month after month? Do we not go on for years untouched, although subject every-day to the imbibition of the poison? and do we not, rendered bold by our impunity, consider ourselves, as it were, fever proof, until some accidental cause convinces us of the contrary, by giving rise to a sudden and violent attack? Who is there that has not observed this repeatedly among the students attending a fever hospital?"

Similar proof of the latency of the fever poison is afforded by the cases recorded by Lind, of sailors, who apparently escaping from the fever which was raging on board, went ashore, and in some time afterwards, in consequence, apparently, of exposure to cold or debauchery, were attacked, *not* with the fever prevailing there, but with that of the ship they had left. In this respect, then, the febrile poison resembles other morbid poisons.

Again: *it is a cumulative poison*. The exposure of a single moment is probably insufficient, in any case, to cause fever. A few inspirations may accumulate sufficient in cases of great concentration of poison; but there is abundant proof that daily and continued imbibition of the poison is, in general, requisite. Thus, we find the attendants on the sick attacked in proportion to the frequency of their approaches to the infection, the very reverse of what would be the fact if the poison were *not* cumulative, since it is a law constantly observed, that agents which act by single impressions lose their power of producing those impressions in proportion as they are frequently repeated. It is true that some eminent writers aver this of infection, as Dr. Copland, who says, "when a person has escaped infection upon the first or the earlier exposures to several infectious maladies, he will generally continue to possess an immunity, unless circumstances should occur to increase his predisposition." Observations made on a large scale, however, tend to disprove this, as regards typhus.

Thus, when fever prevailed during the retreat of the British army through Holland, we are informed by Dr. Fergusson,* that few, indeed, of the medical staff escaped the typhoid contagion; and, again, in the retreat from Talavera to the confines of Portugal, it was seen that the *best seasoned* of the medical staff were the principal sufferers. Dr. Christison, too,† (a solidist) maintains that it is not improbable that the severity of the disease bears some proportion to the amount of exposure."

And "In many instances, fever breaks forth apparently from gradual

* Edinb. Med. and Surg. Journal, No. 112.

† Library of Medicine, Art. Fever.

charging of the constitution under *constant exposure* to the morbid emanations and without any other co-operating cause."

This is very like humoralism, as is the illustration given by Dr. Haygarth. "A pint of yeast will excite fermentation in a barrel of ale, but a hundredth or a thousandth part would not have the same effect."

Again. The *reproduction of the poison of contagion*, is a fact "not dreamt of" in the philosophy of the solidists. Here their analogy is at fault, for the poisons from whose action it is derived are not reproduced. Neither will any supposable impression upon the nervous system explain the continued reproduction of the same febrile phenomena, and the same miasm through an indefinite series of individuals. We have admitted the production of fever by a strong mental impression. We have endeavoured to reconcile this occurrence with the theory which refers the source of fever in all cases to the blood. We have, however, noticed the fact, that such fever does not reproduce itself, and referred to the testimony of one, whose accuracy of observation has seldom been surpassed, who says, "The most remarkable part of the disease is that it does not spread. I have no recollection of a second case of this kind of fever occurring in a family."*

But the humoral theory has its analogy for the reproduction of the poison.† "The mode of action of a morbid virus, exhibits such a strong similarity to the action of yeast upon liquids containing sugar and gluten, that the two processes have been long since compared to one another, although merely for the purpose of illustration. But when the phenomena attending the action of each respectively, are considered more closely, it will in reality be seen that their influence depends on the same cause."

Now, when yeast is introduced into a mixed liquid, containing both sugar and gluten, such as wort, the act of decomposition of the sugar effects a change in the form and nature of the gluten, which is in consequence also subjected to transformation. As long as some of the fermenting sugar remains, gluten continues to be separated as yeast, and this new matter, in its turn, excites fermentation in a fresh solution of sugar or wort. If the sugar, however, should be first decomposed, the gluten which remains in solution, is not converted into yeast. We see, therefore, that the *reproduction of the exciting body* here depends:—

1. Upon the presence of that substance from which it was originally formed.
2. Upon the presence of a compound, which is capable of being decomposed by contact with the exciting body.

If we express, in the same terms, the reproduction of contagious matter in contagious diseases, since it is quite certain that they must have their origin in the blood, we must admit that the blood of a healthy individual, contains substances, by the decomposition of which, the exciting body or contagion can be reproduced. It must further be admitted, when contagion results, that the blood contains a second constituent, capable of being decomposed by the exciting body. It is only in consequence of the conversion of the second constituent, that the original exciting body can be reproduced.

When a quantity, however small, of contagious matter, that is of the exciting body, is introduced into the blood of a healthy individual, it will be again generated in the blood just as yeast is reproduced from wort. Its condition of transformation will be communicated to a constituent of the blood; and in consequence of the transformation suffered by this substance, a body identical with, or similar to the exciting or contagious matter, will be produced from another constituent substance of the blood. The quantity of the exciting body newly produced, must constantly augment, if its further transformation or decomposition proceeds more

* Dr. Cheyne's Account of Fever from Mental Causes, in Sir H. Marsh's Paper on the Origin of Fever.

† Liebig.

slowly than that of the compound in the blood, the decomposition of which it effects."

These substances are the organic matters existing in the blood, either in the state of transition from blood into the constituents of the tissues, or from food into blood. Which changes, it is argued, cannot take place without the formation in the blood of new compounds, which require to be removed by the organs of excretion.

"When the organs of secretion are in proper action, these substances will be removed from the system; but when the functions of these organs are impeded, they will remain in the blood, or become accumulated in different parts of the body. The skin, lungs, and other organs, assume the functions of the diseased secreting organs, and the accumulated substances are eliminated by them. *If when thus exhaled, they happen to be in the state of progressive transformation, these substances are contagious, that is, they are able to produce a state of disease in another healthy organism, provided the latter organism is susceptible of their action; or in other words, contains a matter capable of suffering the same process of decomposition.*

"In the abstract chemical sense, reproduction of a contagion depends upon the presence of two substances, one of which becomes completely decomposed, but communicates its own state of transformation to the second. The second substance, thus thrown into a state of transformation, is the newly-formed contagion.

"The second substance must have been originally a constituent of the blood; the first may be a body accidentally present.

"If both be constituents indispensable for the support of the vital functions of certain principal organs, death is the consequence of their transformation. But if the absence of the *one* substance, which was a constituent of the blood, do not cause an immediate cessation of the functions of the most important organs, if they continue in their action, although in an abnormal condition, convalescence ensues. In this case, the products of the transformations still existing in the blood, are used for assimilation, and at this period, secretions of a peculiar nature are produced.

Having submitted this chemical analogy of the reproduction of contagion in the words of the highest living authority on animal chemistry, it only remains to attempt a rationale of the action of the causes of fever, in accordance with its principles, which may be thus stated:—1st, That the principal character of the blood consists in its component parts being subject to every attraction; the chemical forces of this fluid, and the vital principle holding each other in such perfect equilibrium, that every disturbance, however trifling, or from whatever cause it may proceed, effects a change in the blood.

2nd. That bodies, the elements of which are in a state of decomposition or transposition, when produced from the blood, as contagions are, will communicate *their state* to the sound blood, exactly as gluten in a state of decay or putrefaction, (yeast) causes a similar transformation in a solution of sugar and gluten (wort)

Assuming then, that the primary action of the febrile poison is upon the blood, there can be but one *essential cause* of fever, viz., *The introduction of the poison into that fluid.* Its activity, or the occurrence of the peculiar transformations which it has a tendency to excite in the blood, will be determined by the existence of certain accessory or accidental causes, which disturb the equilibrium between the chemical forces in the blood and the vital influence; either by their action on the blood, causing the increase of compounds subject to those transformations which poison produces—as depraved diet, bad air, &c.; or by their action on the nervous system, withdrawing permanently or temporarily more or less of its influence, and so favouring the chemical action of the poison. Such are the depressing effects of cold, fatigue, anxiety, debauchery, disgust, fear, &c. These are usually termed *exciting causes*, the former *predisposing causes*.

The occurrence of fever—the length of the interval which may elapse between the imbibition of the poison, and the first febrile movement; in other words, the length of the latent period—the severity of the disease, and the facility with which infection is received and communicated, will depend upon the relative power of the poison, and its combination with one or more of the foregoing predisposing and exciting causes.

Thus, the continued imbibition of the poison will sometimes, apparently without the co-operation of any accessory cause, result in an attack of fever. This, however, is a very rare case, as though deranged health, and particularly disorder of the receiving functions, may exist, the poison is in this case usually eliminated from the blood, unless the balance of forces in that fluid be disturbed by some one or other of the exciting causes.

The occurrence of the exciting cause may be, or may not be, accompanied by exposure to contagion. In the case of nurses, and the other attendants of the sick, some single exposure being marked by the presence of an exciting cause, it has been supposed that the infection was then and there received into the system, when, in reality, it was before latent, and only rendered active by the *circumstances accompanying* this particular exposure. Again, when the occurrence of the exciting cause is not attended with exposure to infection, the fever is often wrongly attributed to cold, excess at table, mental emotion, &c., the latent presence of the predisposing contagion not being recognised by the patient, and sometimes, as we have seen, being denied by the physician.

The exciting cause may act, not only by determining the occurrence of fever, but also by shortening its latent period.

This is a frequent effect of exposure to infection. "In these cases, the ascertained laws of incubation," says Fergusson, "will so far be set at nought, that a terrified patient will not only fix the precise moment of infection, but will actually sicken prematurely with small-pox, (a latent infection must of course have been previously received), through the spectacle of the disease in the person of another, or through the disgust (and nothing worse), of an excremental smell, strongly affecting his alarmed imagination, or through the same impression, he may fall down the victim of an impossible contagion, like that of yellow fever."

The apparent shortening of the latent period of morbid poisons, seems to occur under these circumstances:—

1. A strong impression made on the nervous system at the time of exposure. If this be so powerful as to affect seriously the vital principle, the effects of the poison will follow with proportionate rapidity. The poison of ague, usually so long latent, affords a good illustration:—Dr. G. Bird relates, "that being employed in some experiments upon the gas in marshes (near Woolwich), having suddenly disengaged a quantity of most offensive gas, he was seized with nausea; and on the following day with intermittent fever."

A similar instance, in his own person, is related by Mr. Evans; and another, in which death followed in forty-eight hours. *In this last case, the blood was found fluid.**

2. A less powerful impression upon the nervous system may accompany exposure, and be followed by a latent period, apparently shortened, but admitting of the supposition of infection previously latent. Several of Sir H. Marsh's cases afford illustrations of this fact. And it is very probable that exposure to contagion in this way, often produces merely the same effect as an exciting cause, that cold, or any depressing agent would exert.

3. The circumstances accompanying exposure to one kind of poison, instead of acting as accessories to the action of that poison, may cause the immediate action of another, previously latent.

This is the only reasonable mode of explaining the cases of irregular contagion,

* On the Endemical Fevers of the West Indies.

related by Marsh and others. of typhus, received from small-pox patients, scarlatina from typhus, *ague* from typhus, and typhus from puerperal fever.

Some of these cases we might truly term *impossible* contagion, unless explained by the supposition of a previously latent poison. The facility of reception of the disease depends upon two conditions; 1st, the presence in the blood of compounds capable of undergoing the transformation of the poison. This constitutes susceptibility; and when it exists in a great degree, and conjoined with, 2nd, diminution of the vital influence, it constitutes the highest degree of predisposition to disease. The proneness which the living body may thus acquire to infection, may be so great (as seen in crowded collections of wretched beings in large cities, deprived of air, light, fuel, clothing, and sustenance), as to resemble that incapacity of resisting the progress of decay, (a true contagion) which is exhibited by dead animal matter, placed in a putrefying atmosphere.*

The severity of the disease depends partly on the above circumstances, but principally on the *dose* of the poison. This may be illustrated by comparing small-pox and measles, received in the natural mode, with the same diseases communicated by inoculation. Individuals may suffer as severely from the latter as the former, but the generality of persons do not. The following passage in a recent work of great ability offers inducements to consider this subject somewhat in detail:—"The modifications in disease dependent on the *mode of introduction* of the morbid cause, is however a subject too difficult for me to grapple with, and the observations are too few to offer any precise result. Cruveilhier, in the article 'Phlebitis Dict. de Med. et Chir. Prac.' points out the increased intensity of effect when pus is introduced into the circulation at once, and as compared with that caused by gradual absorption from an abscess. The modification which small-pox undergoes by inoculation, as compared with that malady acquired by inhalation, is very remarkable."† From this last observation it would appear that the author considers the modification of small-pox as not *consistent* with Cruveilhier's observation. Such an idea must have arisen from confounding the *matter* of the small-pox pustule with the *poison* of small-pox,‡ when in reality it only contains the poison in common with the blood and all its excretions.

* A fact noticed by Parent Duchatelet, in some infectious places in Paris; and by Senac, see Wilson Philip on Fevers, Vol. I, page 210.

† Ferguson on Diseases of Women, page 104.

‡ The distinction between them is well stated by a writer in the 'Edinburgh Medical and Surgical Journal,' Vol. LIII, p. 206.

"Rayer mentions 'pus and miasm' as two distinct agents which should never be confounded. If the contagious effluvium and the matter of the pustule were one and the same thing, how could we account for the circumstance of the *fœtus in utero* becoming affected with the small-pox? Besides, Dr. Waterhouse and others have recorded cases in which persons exposed only to the exhalations from the blood of small-pox patients have been afterwards attacked by the disease."

The fact marked in italics would also serve to prove the distinctness of the poison from the ponderable matter of lues. Other considerations would lead us to extend it to all morbid poisons. For

1. The peculiar action of a morbid poison on the blood presumes its possessing great diffusibility in that fluid; and this quality is known to exist in all substances universally, as the cohesion of their atoms, or in other words, their ponderability.

2. The power of permeating tissue depends upon the same condition; and while we find that all the morbid poisons *may* act without abrasion of surface, we find that those which do appear to permeate the skin, act with more certainty if presented at a temperature which admits of their volatilization. This is notoriously true of small-pox, as the dissection of subjects who have died of this

The poison of small-pox is equally subtle and imponderable with the other morbid poisons, *an aura*, present it is true in the matter of the pustule, but equally present and equally capable of communicating the disease in the gaseous exhalation which arises from the blood drawn from a variolous patient. The same is

disease, though not harmless, is much less infectious than the handling of the living body. It is also well known that the examination of any dead body is most likely to be followed by the bad consequences of a dissecting wound, when the body is warm and contains the halitus of its cavities uncondensed, the next in point of danger being that which is next in diffusibility; the exposure of the surface of the hands to the liquid contents of the serous cavities in particular cases, especially in puerperal peritonitis.

I need only refer to Mr. Stafford's paper on this subject in the 20th Vol. of the "Medico-Chirurgical Transactions" for instances of the imbibition of this poison in puerperal and other cases, without any abrasion of surface. The following circumstance bearing on this subject occurred to myself a short time since.

I was sent for to see a lady in the latter end of her first pregnancy, who I was informed had been for some time suffering much painful anxiety of mind and fatigue of body, and had been laboriously occupied with the arrangements for entering on a new residence, which had kept her constantly upon her feet. For some weeks the legs had swelled considerably, and pitted under pressure. This swelling had rather suddenly increased, and extended to the thighs and pelvic region, with a feeling of stiffness and inability to walk up stairs. Her pulse was quiet, tongue clean, and general health apparently perfect. This was on the morning of the 21st of December. All appeared to go on well, and the swelling seemed to diminish a little till the night of the 23d, when she slept none, and was attacked with vomiting. On the morning of the 24th I found her remarkably changed; the countenance laggard and anxious, with a quick irritable pulse, thickly furred tongue, restlessness, and vomiting of a dark green fluid. Labour pains came on at 10 a.m. and continued regularly during the day. About 10 p.m. she had an attack of convulsions, and in a few minutes another. Delivery was immediately effected by the assistance of the forceps. It was observed that the labia had since morning become very dark coloured, and the perineum tore upon the slightest stretching like wet brown paper, but *without bleeding*. The delivery of the child was followed by that of a second, unassisted; both being quite dead and flaccid. The uterus contracted firmly, and there was no hæmorrhage; but the patient became less and less capable of being roused, the abdomen enormously distended, respiration laborious, and she sunk at 2 a.m. three hours after delivery.

About four in the evening of that day, I felt a hot painful itching upon the back of my right hand, where I perceived a small transparent vesicle. In a couple of hours I had pain in the axilla, and an uncomfortable, chilly feel. I applied a number of leeches to the hand and took an emetic, followed by calomel and James's powder. These means removed all unpleasant general symptoms, but the part itself did not recover so speedily, as an ill-conditioned obstinate sore formed on the hand which was long in healing. Not the slightest scratch or puncture existed before the application of the poison.

But whence this poison? It was ingeniously suggested to me by my friend, Dr. Clifford, who assisted me through this most distressing case, that the vital powers being over-taxed for the nourishment of two children, had given way, and this decomposition before death was the consequence. Perhaps this is the only explanation which can be admitted.

But I am inclined to believe that the whole was the effect of phlebitis, by which a morbid poison was generated, which produced *death in the fetuses*, dis-

true of measles, which has been propagated over and over again by Home, and others, by inoculating with the *blood* of the patient, and with the same result,—a milder form of disease. By thus separating the poison from its vehicle, the difficulty of explaining the modification of these diseases by inoculation is got rid of, since, to recur to the simile of Dr. Haygrath, a hundredth part of a pint of yeast will not excite fermentation in a barrel of ale, though a pint will do it; and it must be obvious that a single inspiration in the immediate neighbourhood of a small-pox patient may introduce more of the *aura* into the blood than the direct introduction by inoculation of an atom of matter, in which only a small proportion of the poison can be present. The correctness of this view could be readily tested; and if it were found that, as in typhus, the amount of exposure had an influence in determining the severity of the attack of small-pox the explanation must be admitted. One fact is strongly presumptive in its favour; it is the less complete removal of the susceptibility to the disease after inoculation than after natural small-pox. The analogy to the fermenting process is too obvious to need suggestion, and the same remark holds good of fever, short and mild fevers being notoriously more prone to recurrence than a long and severe form of the disease.

organization in the mother, and being presented under circumstances favourable to absorption, rapidly permeated the skin to which it was (only for a few moments) applied. Every thing was favourable to the occurrence of crural phlebitis and to the absorption of the poison into the patient's system, as will appear from the history of the case, without again enumerating particulars. Dr. Wilson's paper, in the "London Medical Gazette" for April 1838, proves that crural phlebitis in women is not confined to the puerperal state.

Note.—It was not till after the section upon the Theory of Fever had been sent to press, that I met with Dr. Hodgkin's remarks upon the nature of the fever in his recently published volume on diseases of the mucus membranes Lecture 23rd. "I shall now proceed to state what I have conceived to be the condition of the system which constitutes fever, whether it be produced by the influence of some local inflammation or lesion, or exists by itself, independently of such exciting cause. This latter form, however, if it have an existence, I regard as of much rarer occurrence than has generally been supposed. *Fever, I imagine, to depend on the suspension, or at least very considerable interruption of that process by which during health, the various parts of the system are continually undergoing a change, the old materials being removed, whilst others are substituted in their place* The process of incessant and universal change of the particles constituting our frames is what we imply by the term nutrition and "interstitial absorption," it is not merely in its character closely allied to secretion, they are, I believe, essentially parts of the same function, &c. This view is supported by strong facts derived from the phenomena of fever, and by much ingenuity of reasoning. And Dr. Hodgkin proves, *at least*, that such an arrest of the molecular change takes place with reference to the secretions and nutrition of the body in fever. Thus far, there is a coincidence between his theory and that advocated in the foregoing section; the same suspension of secretion and accumulation of organic matters in the system, being part of both explanations, and the phenomena or solution or crisis being explained similarly in both.

The difference is as to the *initiating movement*. While Dr. Hodgkin would consider the *factor* of the disease to be in all cases a local lesion or inflammation, the theory of a morbid poison supposes it to be a *molecular change in the blood* caused by the dynamic force of the decomposing particles of the poison, from which arise disturbance of the process of innervation, and of the molecular changes of nutrition, interstitial absorption and secretion.

The theory does not assume to *determine* whether the changes in innervation (such as rigor) which mark the commencement of *formed fever*, are the direct effects

SECT. 5.—*The Characters of the Disease produced by the Infectious Animal poison of Typhus.*

The argument for the foregoing theory of fever, would obviously be much strengthened if it could be made to appear that the phenomena of Typhus are so analogous to those of the other morbid poisons, as to entitle it to a place among "those special contagions, which do not amount to more than five or six, and are all comprehended under that class of which it is the general distinguishing characteristic to occur once only during the life-time of the individual;" in other words, to be classed with the exanthemata.

We find medical writers much divided upon the question whether the petechial eruption of typhus is a primary and essential, or a secondary and accidental character of the disease. We may refer to De Haen,* Hoffman, and especially to Bruserius's elaborate argument for the former opinion, and for the consequent classification of typhus among the exanthemata; and among more recent writers the same view is ably supported by Dr. Copeland and Dr. Peebles, Dr. Roupell, and Dr. Davidson. Dr. Alison seems inclined to adopt it, though his language is reserved and cautious. "Such cases of spotted fever may be said to form the link that connects the order of fevers with that of the contagious exanthemata."†

If it be found that the analogy is complete in every essential particular, and that the objections which have been urged against the classification of typhus with the exanthemata are founded upon supposed discrepancies, which have no real existence, we shall be entitled to substitute for this cautious approximation, the decided definition of Dr. Peebles: "This contagious febrile eruption is an exanthematous affection, the production of human effluvia where society is placed in circumstances favourable to its development, and should be considered the effect of a poison *sui generis*. It arises from a miasm, which generates in the human body *an eruptive fever distinct from all others, as other, exanthemata are distinct.*"‡

The first point of resemblance, and one much insisted on by the older writers, is the *primary* nature of the eruption. In this particular it differs from the petechiæ which occur in the advanced stage of many fevers, and cannot be considered essential to them. "The petechiæ," says Bruserius,§ "besides that they break out in all patients, or at any rate in by far the greatest number, as I have already said, likewise appear sooner in particular instances, generally about the fourth day, sometimes even earlier; but very seldom if ever at all delay breaking out beyond the seventh day, unless they be very anomalous, while the secondary and symptomatic ones appear much seldomer, and in fewer patients, nay, very late," &c.

of the poison carried through the circulation to the nervous centres, or whether, as Dr. Hodgkin infers, from a conversion of Edwards' proposition, "since cold has the effect of retarding, especially that function by which particles to be rejected from the body are thrown off, a suspension of this process from another cause should be attended with a sensation resembling in a degree those caused by cold." This seems rather a doubtful conversion of Dr. Edwards' fact. I shall hereafter return to Dr. Hodgkin's ingenious speculations, merely observing for the present, that while some parts (see page 491) support a humoral theory, his theory will by no means explain the phenomena of infection as the humoral theory does.

* Ratio Medendi. Vol. II. Chap. I.

† Edinburgh Medical and Surgical Journal. Vol. XXVIII.

‡ Idem. Vol. XLVII.

§ Institutes. Vol. III.

Hoffman* also describes them as appearing "in nonnullis quarto vel circa septimum diem in dorso potissimum pectore et brachiis vel sine levamine maculæ in aliis copiosiores in aliis pauciores coloris varii," &c. Modern observations are consistent with these. Thus, Dr. Barker, after taking much pains to prove by a reference to older authors, that this eruption was not peculiar to the Irish epidemic of 1817-18, says, "From a comparison of many cases, I would infer that it generally makes its appearance between the fifth and seventh days inclusive of the fever," &c.†

If we refer to descriptions of the jail or hospital fever, we find Monro enumerating the fourth, fifth, sixth, and seventh as the most frequent days of the measly eruption; and Sir J. Pringle states that he frequently saw them as early as the fourth or fifth day.‡

Another resemblance is presented in the phenomena attending the progress of the disease: more especially the attenuation which may be observed between the eruption and the affections of mucous membranes. In exanthematous typhus the same dry harassing cough is observed previous to the appearance of the eruption as in measles. On the coming out of the eruption this subsides, unless a catarrhal complication exists. Again, if the mucous membrane of the bowels be the seat of irritation, and a diarrhœa (whether the effect of the disease or of medicine exist) the eruption will fade. This is analogous to what has been observed in scarlatina,§ and it has been urged as an argument for the free use of purgatives in typhus, that they clear the skin from spots. In the definite nature of its progress, and its disposition to terminate critically and at once, typhus resembles the exanthemata as much as it differs from the intermittent and remittent fevers with which it has been confused and compared. Neither does it appear that when once the febrile movement has commenced it can be arrested any more than the action of other morbid poisons. Most of the cases in which this is supposed to have been done have been merely cases of strong nervous shock from exposure to infection, without evidence of the infection having been imbibed into the system.

The last resemblance upon which it is necessary to dwell, is the mode of communication.

The fact of typhus being communicated from one person to another, is a powerful argument for classing it among the *special contagions*. An examination (hereafter) of the circumstances which favour infection, will shew them to be the same in both, and the time at which they become infectious seems to be the same in both, viz. at and after the period of maturation or crisis. The argument adduced by Dr. Ferriar against the humoral theory, "that neither would a patient after recovering from a nervous fever, cease to infect others till the whole mass of his fluids were changed," is thus deprived of its weight.

The histories of patients admitted into our fever hospital afford frequent illustrations of this fact, as they constantly attribute their infection to some neighbour, or member of their family, who has returned home cured from hospital; and there is at present in the hospital a man who has suffered severely from this cause, having lately lost his wife by a typhous fever which commenced on one of his children, who was hugged and kissed by a man upon his discharge from the hospital after passing through a most severe typhus.

But as evidence on a large scale is to be preferred to individual instances, let us take Dr. Perry's very strong and satisfactory testimony to the fact with reference to *both* diseases.||

Into the fever house in Glasgow are admitted cases of measles, scarlatina and small-pox, and patients are very frequently sent in labouring under bronchitis,

* *Medicinæ Rationalis*. Tom IV. p. 120.

† *Dublin Medical Transactions*. Vol. II.

‡ Monro on Hospitals, page 10; and Sir J. Pringle on Diseases of the Army, page 299. § By Fothergill, and others. || *Dublin Medical Journal*. Vol. X.

&c. &c. I found by experience that when the latter class of patients were sent into the convalescent ward, where they necessarily mixed with the others, almost all who had not previously had typhus fever were either seized with it before leaving the house, or returned soon after labouring under it. The period intervening between the time of their being sent to the convalescent ward and the attack being never less than eight days. Although means were taken to keep those recovering from small-pox, scarlatina, &c. in a separate room from those convalescing from fever, the rooms being adjoining the non-intercourse was incomplete, and the result was, that these diseases occasionally spread among the typhous convalescents, and the convalescents from small-pox and scarlatina caught typhus." He states that "the result of a trial of the plan of keeping non-febrile cases in the acute wards till able to go to their homes was, that *not one* so detained ever caught fever in the wards, or returned with it afterwards." Dr. Perry's statement is confirmed by Dr. Stewart, who says, "In fact, scarcely one of the hundreds dismissed from the *acute* wards ever returned labouring under typhus, though they had remained for a week or ten days in wards sometimes crowded to excess, while of the few who by mistake went into the *convalescent* wards, scarcely one escaped the disease, and several died,"*

Such are some of the most striking analogies between typhus and the class exanthemata: others not less important arise from a consideration of the supposed discrepancies which exist between the laws and phenomena of the two diseases.

Each writer who has opposed this classification of fever, has urged some objection or other which he considered fatal to it. We shall examine them in detail, and endeavour to show that they belong to two classes. 1. Those which apply to the exanthemata as well as to typhus; and 2. Those which *do not* apply to typhus, but to other fevers.

In both cases the argument from discrepancy must be ill-founded, as in the first the differences become analogies, and in the second, typhus, by being separated from others fevers, becomes more completely identified with the "specific contagions."

To commence with the latent period of typhus. Its variable length has been urged against the classification. That of the exanthemata appears to be equally so. In scarlatina it may extend from a few hours to twenty-one days, according to Dr. Williams and Dr. Maton. In measles from a week to a fortnight, and in small-pox from five to twenty-three days.

II. The eruption, it is said, is not invariably present. This objection is not as strong as it appears, and since it is admitted that the eruption of typhus has only very lately been attentively examined as a diagnostic character of the disease, we cannot think the question likely to be illustrated by the kind of testimony which some opponents bring to bear upon it.†

The answers to this objection are, I. It is often present, though so indistinct as to escape a superficial examination. "On such occasions," says Dr. Barker,‡ "the suffusion of the eyes is a pretty certain indication of its presence." "They sometimes," says Bruserius,§ "lurk under the epidemics, scarcely perceptible, and are only seen through it on attentive examination; nay, they sometimes do not appear unless cupping glasses be applied, by which they are called out."

Similar is the observation made by Sir J. Pringle,|| and repeated by Dr. Roupell, upon the arm on which a ligature had been applied for bleeding.

* Edinburgh Med. and Surg. Journal, No. CXLV.

† Vide Dr. West's paper.

‡ Dublin Medical Transactions, Vol. II. Monro also remarks, that though many had no petechiæ, in all who were very bad the countenance looked *bloated* and the eyes *reddish* and *somewhat inflamed*, page 12.

§ Institutes.

|| Page 300.

2. In the returns from which the comparative frequency of appearance of the eruption is deduced, there are two sources of error which have been well exposed by Dr. Davidson. The first is, that they contain a large proportion of cases *not* typhus; the other, that many of them entered hospital at an advanced stage of the disease, after the retrocession of the eruption.

Dr. Davidson observes that one fact powerfully supports the opinion that contagious typhus, in the great majority of cases, particularly in adults, is attended with the eruption, viz. that almost all the instances of fever which have occurred during the last six or seven years among the physicians, clerks, nurses, &c. of the Glasgow fever-hospital, have been accompanied with this exanthema.*

The following remarks of Dr. Stewart on this subject deserve consideration.

"Nor can I consent without reserve to conclusions drawn from the alleged absence of eruption: for the fact I have already referred to (viz. that the eruption in typhus in Edinburgh was unheeded before 1832) shews how appearances may escape the eye of the most distinguished and practised physicians, when their attention is not particularly drawn to them. It is also well known to many, that previous to a visit which Dr. Peebles made to the Glasgow fever Hospital, in the spring of 1835, the exanthema of typhus, then found to be of general occurrence, had neither been looked for nor registered in that institution, and was received as a new discovery."†

3. We reply that the occasional absence of the eruption is in truth an *analogy*. "For," says Burserius, "as the variolous fever, or the variolous disease unaccompanied with small-pox, sometimes occurs, I should not consider it at all absurd to suppose that the petechial fever may in like manner take place without petechæ."

In another place this author remarks: "This is generally observed to happen when they prevail epidemically. But it does not occur so frequently and decidedly to the observation of any one as that of the inoculators. For not unfrequently at the usual time after the inoculation, a fever comes on which continues several days, and then goes off without being followed by an eruption of pustules. Who would not call it a variolous fever!‡"

I am acquainted with a family in which small-pox made its appearance, affecting different individuals in the following mode. One with confluent eruptions, another with scanty, two with variolous fever without eruption, and another with intense vomiting and delirium, but no subsequent fever or eruption.

The same occurrence of a peculiar fever without eruption, has been remarked in epidemics of measles, by Sydenham and others. Rayer states that Guersent has observed individuals in families where measles prevailed, exhibiting all the other symptoms of the disease except the eruption, and that he has himself several times seen cases in which the eruption was incomplete, and which might have been referred to the morbillary fever of Sydenham.§

Every one who has had any experience of epidemics of scarlatina, must have observed fever and sore throats of the same character as that of scarlatina, but without eruption, occurring in families in which the disease prevailed. Rayer quotes the testimony of a number of authors upon the subject, and Dr. Tweedie introduces it as a variety of the disease into his classification. This scarlatina sine exanthemate is very frequently met with in practice.

III. A want of uniformity of the character and time of appearance of the eruption has been alleged.

* Essay, page 22. † Edinburgh Med. and Surg. Journal, Vol. LIV.

‡ Institutes, Vol. III.

§ On Diseases of the Skin.

"Of the varying character of the eruption," says Dr. West, "almost every quotation has afforded an illustration, and we have seen the date of its appearance vary from the second to the seventeenth day."

We are by no means convinced that the subject has been *illustrated* by Dr. West's quotations, which appear to be descriptive not so much of typhus as of every other variety of fever. On the other hand testimony is not wanting of observers who have explained these apparent irregularities in the character and periods of the typhus eruption, and reconciled their apparent inconsistency with an exanthematous theory of fever.

Such we meet in the following passage from Burserius's admirable chapter on petechial fever. "Le Roy also observes that there is some distinction between the primary and secondary petechiæ, which consists in the difference of their colour, namely, that the former are of a palish red and rosy colour, and in general break out in great numbers, principally on the loins and legs, that the latter on the contrary are generally of a purple colour, like deep red wine, and are sometimes also brown or black, and fewer in number."

But we must also remember that the primary ones break out soon, and when they are epidemic appear not only in all affected with the same disease, but are likewise very frequently combined with other diseases called intercurrent ones—(for these last are not always wanting, as some contend)—while on the other hand, the secondary ones break out later, and generally about the height or towards the end of the disease, and not in all patients, but only in those whose blood is so vitiated as to become almost putrid and occasion gangrene here and there on the skin, or being thrown into violent commotion by a heating regimen and medicines, is effused into the spaces of the skin, *but not by the wisdom of Nature endeavoring to free herself from the noxious miasma*. Hence I would say that the primary differ from the secondary petechiæ, because the former arise from a peculiar and poisonous miasma, and the secondary from the crisis of the blood being deranged by the violence of the disease, or from its increased motion, or lastly, from a heating regimen having been employed." Such also we meet in Dr. Staberoh's paper on the eruption attending epidemic fever. In which he shows that not only do petechiæ of the echymotic or secondary kind occur after and *apart* from the exanthema, but that spots of these are capable of being converted into echymotic spots.† Attentive observation has convinced me that not only are the above statements correct, but that we may add that a third variety of late petechiæ occur in cases in which from diarrhœa or hypercatharsis in the beginning of fever the exanthema lurked under the epidemics. The conversion of this *indistinct eruption* into echymosis taking place, or the latter being superadded in the course of the disease, *and appearing to be primary*. A fourth variety is thus alluded to by Dr. Peebles; "Petechiæ may be mixed with the exanthema, and in some epidemics the exanthema has been prevented from showing itself by the disease passing so rapidly from the sthenic state to the putrid, that it has not had time to make its appearance."

Of course under any of the foregoing circumstances the late appearance of a petechial eruption is no argument for a want of uniformity in that of the exanthema. The frequency of occurrence of these secondary petechiæ is only an additional reason for believing that the two forms have been by many writers confounded together.

IV. It is objected, "That the disease often occurred more than once during the life-time of an individual."

* On Exanthematous Fevers. Edinburgh Med. and Surg. Jour. No. CXLIII.

† London Medical Gazette, Vol. I. N. S. p. 973.

THE
Medico-Chirurgical Review,

No. LXVIII.

[NO. 23 OF A DECENNIAL SERIES.]

JANUARY 1, TO APRIL 1, 1844.

MEDICO-CHIRURGICAL TRANSACTIONS, Published by the Royal Medical and Chirurgical Society of London. Vol. XXIII. London: Longman and Co. 1840.

[Concluding Notice.]

WE resume our examination of the contents of this volume, with a—

CASE OF LARGE OSSEOUS TUMOR OF THE UTERUS. By JAMES M. ARNOTT, Esq. Surgeon to the Middlesex Hospital.

A maiden lady, aged 72, was run against by a big dog, and thrown forwards on the pavement, on the 15th of February, 1840. There was a large tumor in the abdomen, and upon this the lower part of the ileum being struck, was burst. She died of fecal extravasation and peritonitis in thirty-four hours.

On removing, says Mr. Arnott, the tumor, which was effected with some difficulty, so firmly was it impacted in the upper opening and cavity of the pelvis, the bladder was found attached to it in front, low down; but the uterus could not be readily made out. However, on tracing the vagina upwards, the cavity of the uterus was discovered in the shape of an elongated, very narrow canal, stretching along the posterior surface of the tumor, over which the Fallopian tubes were likewise spread out. The *form* of the uterus had *entirely*, and its *substance*, in a great measure, disappeared; for while its posterior parietes, forming the back part of the elongated canal, were reduced to a state of extreme atrophy, so as to resemble membrane, the *anterior* had become expanded and stretched over the surface of the tumor, which had clearly been originally developed in its substance, and was now covered throughout by a very thin, but more or less distinct, layer of uterine tissue.

The tumor was of an irregular oval shape, being larger at the upper end. It measured *seven* inches in length, *nineteen* in circumference in the direction of the oval, *fourteen* round at the distance of an inch from its upper end, *thirteen* at the same distance from its lower. The colour was yellowish white; the surface slightly tuberculated or botryoidal. It weighed, as has been already stated, five pounds. On being sawn through, it was found as hard as marble, and quite solid; yet the section presented an appearance as if the mass had been formed of several separate portions firmly agglom-

merated; an *ep e r a i c e* arising, however, from minute traces of fibrous tissue being here and there still perceptible in it. Attached to the n per ext r m y of the la g e o n e, but distinct from it, there were several small tumors, varying in size from that of a pea to a chestnut, and which presented precise y the same structure”

Professor Daniell found that it had the following composition.

Animal matter, including water and ammoniacal salts, - - -	35.
Phosphate of lime, with a small quantity of phosphate of magnesia, 5 j.	
Ca bonate of lime, - - - - -	5.
Alkaline sulphates, phosphates, and muriates, - - - - -	4.

100.

It turned out that the lady had discovered the tumor, when of the size of a goose's egg, in 1808. She consulted Dr. Denman, who privately informed her friends that it was cancer of the uterus in an in ctive state.

The case is interesting, and is communicated in Mr Annot's usual perspicuous style.

II. ON THE RAPID ORGANIZATION OF LYMPH IN CACHEXIA. By JOHN DALRYMPLE, Esq. Assistant Surgeon to the Ophthalmic Infirmary, Moorfields.

Mr Dalrymple, the author of an excellent treatise on Diseases of the Eye, and an accomplished ophthalmic surgeon, labours, in this paper, to establish the conclusion that organization of plastic effusions is more facile in the cachectic than in the robust.

Those, he says, who have been accustomed to witness ophthalmic diseases on a large scale, cannot fail to be at once struck with the great r tendency to the effusion and organization of fibrine on the surface of the iris in syphilitic cases than in those of idiopathic iritis, and there will be no difficulty in admitting that the specific cases occur, at least in this metropolis, in by far the greater proportion in enfeebled constitutions;—in those debilitated by excesses, irregularity of moral habits, or the mal-administration of mercury in the primary disease.

The first appearance of the tubercles of fibrine, which is the form such deposits generally assume, is observed at the annulus minor of the iris, where the capillary vessels are most numerous interlaced, more minute, and constitute the extreme ciculation of the part. Gradually, however, as the affection extends, we find these deposits occupying various spots of the anterior plane of the membrane, while from a yellowish colour they assume a red hue, more or less distinctly marked, manifesting the organization of the fibrine.

“Again,” he continues, “in those affections of the posterior part of the eye in children, which we have been accustomed to call malignant almost every one has been surprised to observe, in the early stage, how healthy appear to be the subjects of this frightful malady. During the period of the existence of the bright and metallic reflexion from the deposit at the posterior part of the globe, the child appears to retain its ordinary health, although perhaps the disease may be going on to increase. But so soon as you begin to trace the organization of

the fibrine indicated by the red points, or ramifications of actual vessels, not only may you expect a great deterioration of the general health, but also the rapid progress of the affection.

It is then curious to inquire whether the decline of health precedes, accompanies, or follows this organization, or rather, whether it is the cause or consequence. I do not hesitate to declare my belief, that it is the cause rather than the effect; first, because I have often seen the disease existing many months prior to the organization of the deposit, and upon an accidental impairment of health it has suddenly assumed an active form, and gone on unchecked to a fatal termination; and secondly, because, when in a particular case, the health of the child had by great care been much improved, the disease itself appeared to have been checked, and the globe began to waste; and lastly, because in this same case, when the negligence of the parents again allowed the health of the child to decline, the disease burst forth with redoubled activity, and went on rapidly to a fatal termination." 209.

From these considerations, he turns to injections of morbid parts. These he thinks prove the same ready organization of the materials of the blood, in enfeebled conditions of the system.

Mr. Falrymple first describes the injected preparation of a knee-joint amputated for extensive disease. He refers more particularly to the abscesses in the cellular tissue and amongst the ligaments.

These particular cysts were of various sizes; all, however, more or less small, some containing pus, others a cheesy and almost concrete material. All the cavities, however, were lined with what at first appeared to be unorganized fibrine, varying from half a line to two lines in thickness, seldom smooth, but rather rugous, and on its free surface somewhat nodulated or granular. This fibrine was detached with so much facility from the vascular membrane lining the abscesses, as to lead one to conclude it was of recent origin, and had no vascular communication with the highly-injected membrane, from which it was evident it had been poured out. When, however, some portions of this fibrine had been carefully removed, dried on plates of glass, and submitted to the microscope, it immediately became evident that it was not only organized, but minutely traversed with vessels, injected, *ex rotis*, with coloured size.

When a portion of fibrine had been removed in adhesion with the vascular, or what is often called the pyogenic membrane, the continuity of the vessels from the latter into it was delicately exhibited. If a portion of both was cut in profile, or if the fibrine was carefully reversed from the surface of the pyogenic membrane, the same appearances were exhibited. Again, when a portion of the fibrine adhering to the vascular web of the abscess was viewed from its free surface, the penetrating power of the instrument showed these delicate capillaries shooting up from below and ramifying to the surface of the effusion.

In a case of scurvy, under the care of Mr. Busk, of the Dreadnought hospital ship, a coagulum appeared to have become organized.

"A seaman was received on board the Dreadnought in the last stage of sea scurvy, of which he shortly died. One of the legs of this man was injected, and on examination it was found that a large deposit of coagulated blood adhered to the bone of the tibia, covered by periosteum, which was raised and separated from the bone from the tuberosity nearly to the ankle. On each of the three sides of the tibia was the same appearance observed. The clots measured from three to four inches in length, and in thickness from a quarter to

half an inch. The periosteum which firmly adhered to the blood, was divided and reflected above and below, so as to expose the external surface of the clot. The injection had surprisingly succeeded, and the dark coagula were seen, even with the naked eye, studded in every part with red points, as of the torn mouths of vessels that had entered from the periosteum.

Sections of this blood, made perpendicularly to the bone, exposed numerous branches all filled with coloured size, and which appeared at first sight as if they were the vessels that had originally passed directly from the periosteum to the outer lamella of the tibia, but raised and elongated by the separation of the membrane, and traversing the surrounding effused coagula.

When, however, thin slips of this mass were dried on plates of glass, and rendered transparent by immersion in Canada balsam, a most intricate arrangement of capillary vessels was seen, ramifying and inosculating under various angles, and in a somewhat aborescent form, throughout the entire mass of the clot.

Thus, although the larger vessels might possibly have been the original vessels of transmission from the periosteum to the bone, yet it was evident that the whole clot was minutely organized with innumerable new and minute vessels; whose arrangement was so determinate and uniform, as to leave no doubt of the entire dissimilarity of the organization of this tissue from the periosteum on the one hand and the bone on the other." 213.

The coagulum must have been recent, and the fact, as well as the severity of the scurvy, are evidence enough of the debility of the patient.

Mr. Dalrymple thinks that the growth of malignant, and perhaps of the more simple, tumors affords another example of the tendency in weakened states of system to the organization of plastic effusions. It is well known that the former become developed much more rapidly towards the close of life, when the patient has been worn down by confinement, want of exercise, and long suffering. And it is not improbable that occasionally the latter or more harmless forms of tumor are converted into malignant during some sudden or gradual deterioration of the general health. But the tumors which result from the mere hypertrophy of natural tissues, as the adipose, &c., must be excepted.

As it is from chronic inflammations that the main additions to the bulk of parts are made, Mr. Dalrymple attributes their persistence to cachexy. And he thinks that injections of new structures depend on want of tonicity of the capillaries of the old, and their consequent dilatation.

The Paper is an ingenious one, and the subject merits attention.

III. A CASE OF RECOVERY FROM CUT THROAT, IN WHICH BOTH THE LARYNX AND PHARYNX WERE EXTENSIVELY OPENED. By R. A. STAFFORD, Esq., Surgeon to the St. Marylebone Infirmary.

J. S. aged 25, a servant out of place, with a razor, divided the larynx in full half its circumference, exactly between the os hyoides and thyroid cartilage, exposing its internal surface without wounding any important blood-vessel. He was brought into the St. Marylebone Infirmary by a policeman, October the 21st, 1839, and appeared in a very exhausted condition; having a feeble pulse and cold extremities. The wound had been dressed by another surgeon, and therefore it was not opened. Nutritious fluids were ordered, and, there being cerebral excitement, leeches to the temples, &c. were prescribed.

In the middle of the second night, whilst the back of the nurse who had been ordered to watch him was turned, he made an attempt to open the wound with an old blunt knife which he had secreted; and succeeded so far as to divide the sutures of the former wound, and to cut on into the pharynx. No vessel of any consequence was injured, and he coughed up only a little blood. The wound was brought together by two sutures, with the view of preventing the wide gaping which otherwise would have taken place, and it was lightly dressed. He breathed through the mouth.

From this period the food escaped through the wound in the pharynx, and it was necessary for him to be fed by an elastic tube being passed down the œsophagus into the stomach. The cerebral excitement and fever increased, and continued for several days. He was kept under strict restraint. Blood was frequently abstracted from the neighbourhood of the head: he was blistered and purged; took sudorifics; used freezing lotions and the cold douche; and at length symptoms of effusion into the ventricles and pressure on the brain, being by stator and dilated pupils indicated, he was salivated by mercurial friction. The head-symptoms from this treatment gradually subsided, but he was left extremely weak. Quinine, wine and nutritious diet were administered, and his strength increased. The wounds now began to heal. The wound of the pharynx being the lesser, first closed up, and afterwards that of the larynx. On the 9th of December the whole wound was completely cicatrized, but the voice of the patient was lost, and he could only speak in a whisper.

The man had twice before endeavored to destroy himself, and after quitting the Infirmary, he hung himself.

IV. ON THE STRUCTURE OF THE HUMAN PLACENTA, AND ITS CONNECTION WITH THE UTERUS. By WILLIAM BLOXAM, Esq.

Mr. Bloxam has carefully examined the placenta. Mr. Bloxam gives a circumstantial account of his investigations, for which we must refer to the Transactions. His conclusions we transcribe. They are—

Firstly. That the blood enters the placenta through the short curling arteries of Hæmery; and that although their size is insignificant compared with the venous system of the uterus, yet their relative number being greater, a full supply of blood is insured to the organ; whilst by the smallness of their calibre, they prevent the maternal circulation from expending its full momentum on the system of the child, under the accidental shocks physical and mental to which the mother is daily liable.

Secondly. That these vessels ramify on the spongy tissue of the placenta, and are there in apposition with the extremities of the umbilical veins.

Thirdly. That it is highly probable, that some of the properties of the maternal blood pass into the circulation of the fœtus by this means, and having fulfilled its functions in the fetal œconomy, the residue is returned to the placenta by the umbilical artery.

Fourthly. That from the free terminations of the umbilical arteries it transpires into the interstitial structure of the placenta; which, it may be remembered, is continuous with the semilunar apertures on its uterine surface.

Fifthly. That these apertures are applied to the openings on the internal surface of the uterus, and furnish the channel by which the blood, or its principles, are restored to the system of the mother.

"As far as I am aware, there is no evidence of direct communication between the fœtus and its parent, furnished by the researches of comparative anatomists. Mercury, however, has been found in the vessels of the fœtus after having been injected from the uterus. Here, perhaps, the weight of the substance employed may have conduced to the result."

V. OBSERVATIONS ON INJURIES OF JOINTS, AND THEIR TREATMENT.

By RUTHERFORD ALCOCK, Esq., K.C.T., &c. late Deputy Inspector-General of Hospitals with the Auxiliary Forces of Portugal and Spain; and Lecturer on Surgery.

Mr. Alcock deserves the highest credit for communicating, as he does, the results of his experience in the recent revolutionary wars in Portugal and Spain. He has endeavoured to render the knowledge he has acquired available to the profession at large, and has published some highly interesting facts, as well as instructive observations.

The following memoir on Injuries of Joints deserves attentive perusal. We shall endeavor to select the more prominent points and lay them before our readers.

Mr. Alcock alludes in the beginning of the paper to excision of the articular ends of bones after injuries. And his remarks are valuable. He shews that this operation has not been sufficiently practised in the army.

Excision of the Head of the Femur.

"Excision of the head of the femur has been practised. M. Paillard, in his '*Relation Chirurgicale du Siège d'Anvers*,' gives an example of resection of the head of the thigh bone for a comminuted fracture of the neck,—six inches of the bone, including the head and neck, were removed with very trifling loss of blood. During the first few days, some chances of success were observed; but the limb quickly afterwards became gangrenous, and the patient died on the ninth day. Mr. White, of Manchester, was the first to propose this operation, about the middle of last century. One case only of its actual performance had been related before M. Seutin's, by an American, and was not considered, I believe, as very certainly authentic. The result of M. Seutin's case is not likely to lead many to perform an operation which, I cannot but think, very little calculated to save a useful limb under the most favourable circumstances. I believe, however, that Mr White, Surgeon to the Westminster Hospital, has performed a similar operation for carious disease of the head of the femur, and with good result." 251.

Excision of the Head of the Humerus.

In wounds of the shoulder joint, observes Mr. Alcock, Larrey speaks of ten cases in which he avoided amputation by extracting or removing the head of the humerus; one died of fever, two of scrofula, and one of plague. In some there was ankylosis, in others a species of joint.

In 1794, M. Percy showed, in Paris, nine successful cases where the head of the humerus had been removed; and Larrey again relates a case

where the top of the shoulder was struck by a four-pound shot, merely breaking the skin superficially, but fracturing underneath the head of the humerus, the scapular end of clavicle, the acromion and coracoid processes. He cut down upon the broken fragments, and removed them, including the head of the humerus. The wounds cicatrized, and the arm ankylosed at the shoulder, by the gradual approximation of the shaft. In another similar instance there was an artificial joint formed, and slight movement in every direction, although the arm seemed to have less strength than existed in the former case, where there was ankylosis. Mr. Guthrie also speaks of similar cases of cannon-shot injuries occurring in the British army; but all were fatal. He relates, however, several cases from musket-shot, where arms were saved by removing the head from the cavity, together with any other fragments of the neck.

These facts prove, as Mr. Alcock remarks, that excision of the head of the humerus will occasionally be successful even in injuries inflicted by cannon-shot, and may be applied with confidence to those resulting from musket-balls.

Excision of the Knee-joint.

Mr. A. reprobates this.

"To conclude at once with the articulations of the lower extremity, in reference to these operative means, I will observe that in injuries of the ankle, excision, whether of the astragalus or the end of the tibia, may form a resource; and examples are on record, when both the one and the other have been removed with success. If a shot, however, pass directly through the articulation, splintering articulating surfaces of both tibia and astragalus, I believe amputation to be almost invariably indicated. The excision or removal of the whole or portions of one of the articulating surfaces forming the ankle joint will more frequently be found expedient in the dislocations attended with laceration occurring in civil life, where it is often impossible to return the projecting parts to their proper position, than to gun-shot injuries more extensively shattering the bone, and contusing all the parts in the vicinity." 254.

Excision of the Elbow-joint.

Our author speaks favourably of this—a successful operation in civil practice.

Excision of the Wrist.

It is often, says Mr. Alcock, difficult to decide upon the course to be adopted in wounds and lacerations of this articulation. Patients occasionally recover from very severe injuries, such as the passage of a musket-ball through the carpal bones, or the laceration of a saw passing into the articulation with the hand. Yet these are cases at best eminently uncertain in their results; and although much may be adventured, but little should be promised or hoped. Excision of the end of the radius, the removal of a dislocated carpal bone, or of the head of a metacarpal bone, may occasionally be adopted, and with success, to prevent the loss of a hand. It is impossible, however, to predict, with any certainty, the degree of inflammatory and suppurative action which may ensue; and on this chiefly hangs the issue of the case.

If there be crumbling of one or more of the carpal bones, provided the tendons are not divided across, these fragments may be removed, and an attempt made to save the hand. But if there be comminution involving the greater part of the articulation, instead of its lateral extremities merely, it rarely happens that the tendons are not extensively torn across also; and then amputation would better be performed at once, and no attempt made by excision to remedy the mischief.

The second part of Mr. Alcock's memoir is occupied with the general results of injuries of the articulations, with regard to their frequency in military practice, and to their treatment, progress, and termination. Mr. Alcock first supplies two tabular returns:

No. I.—Comprises the Results of Gun-shot Fractures, involving Articulations, Amputations,—including all in two periods of about one Year each. Cases not operated on including the Series of Thirteen Months only.

No. II.—The Results of Gun-shot Fractures involving the Articulations, —in Cases Amputated—in Cases treated without Operation. Including a Period of about thirteen Months.

Thus, says Mr. A., the Return No. I, embraces all the cases occurring within a given period; to which he has added all the amputations from such injuries, not only for the same but during several additional periods. As the periods embraced by the cases and the amputations do not therefore correspond, Return No. II has been formed, giving all the cases treated or amputated within a given time, *and no others*.

Mr. A. has classed all injuries of joints under three heads. The first comprises those varieties of injury where in the majority of cases the limb may be saved, and where as a general rule it should be a principle of practice to attempt the cure.

The second contains what may be considered a doubtful or intermediate class. It comprises cases in which we find the difficulties both as to the diagnosis and line of treatment are considerably increased. They can be grouped neither like the first class, as injuries in which the attempt to save the limb may be made in the majority with good result: nor with the third class, where amputation is imperatively indicated from the first, and with as little delay as possible.

Mr. A. explains the principles of treatment which he has adopted, and which were applied to the cases included in the returns.

'In lacerated or incised wounds penetrating the capsule, it has been held matter of the highest importance to exclude the air, and secure, if possible, and by every means, union by the first intention. I have been led by my observation of these injuries to a conclusion not quite in accordance with this precept. Although it may safely be admitted as a general principle in surgery, that all wounds should be treated so as to procure the earliest possible union of their edges, this should be understood, in reference to wounds of joints, to apply only so far as the edges can be approximated without violence of any kind, constriction or pressure. I firmly believe that no pressure by bandages, compresses, or by means of strapping, can be applied in the first instance to injuries of joints, without doing mischief, and materially aggravating the inflammation, which, to some extent, must inevitably ensue.

I have found that cold, in the first instance, applied over the articulation, generally best assists in repressing and controlling the supervening inflammation, and if somewhat later it should become ungrateful to the patient's feelings,

it may occasionally be exchanged, with advantage, for warm water dressings: or if the joint has assumed a puffy, swelled and unhealthy appearance,—a state often to be traced to the injudicious use of poultices—a more tonic and stimulating mode of dressing will generally cause improvement. Of this kind of dressing, the best seem to me either a decoction of aromatic herbs, with the addition of a little wine, or warm camphorated or sweetened wine, which has not been freely adulterated with bad brandy, as are generally most of the wines consumed in England. Such dressing is not used in this country, but is frequently employed in the rest of Europe; and I have no hesitation in stating that I have seen the happiest effects from its use, when more emollient applications, such as poultices, certainly did not arrest, but, on the contrary, appeared to promote the ‘engorgement’ of the limb. There is indeed a strong prejudice in this country against such applications, but founded upon theory rather than practice.” 267.

Antiphlogistic treatment must be enforced, and leeches are more particularly necessary. Absolute immobility of the limb is to be secured. Yet suppuration too frequently occurs in spite of all treatment. The matter must be evacuated. Openings in dependent positions and free incisions, either in the vicinity, or if necessary, through the capsule, should be promptly and boldly practised, together with such regulated pressure above and below the articulation, as the state of the limb may indicate and allow, in order to counteract the tendency to spread and burrow.

The health of the patient must be, of course, attended to. If great prostration of strength, hectic, and diarrhœa set in, amputation may become necessary, whatever the original injury.

Perfect quietude during and for some time after the healing of the wounds, is indispensable. Then gentle friction and passive motion may be tried, very gradually. If the ankylosis resulting be partial, probably considerable motion may be recovered, and some force may be used; care being taken never to push these measures so far as to induce inflammation in structures still morbidly susceptible. If the ankylosis, on the contrary, be complete, no attempts of this nature should be made.

Mr. Alcock examines the tables of articular injuries in reference to the following circumstances.

1. Their proportionate numbers, in relation to other classes of injuries, and of the articulations with each other.

2. Mortality, absolutely and relatively. Number of amputations to which these injuries give rise, and proportionate numbers in different periods.

3. Causes of mortality, with regard to the whole number of deaths, and to the number of deaths from each articulation, considered in relation to amputations at the three periods—primary, intermediary, and secondary, and to cases treated without amputation.

4. Influence of external and collateral circumstances.

1. *Proportionate Numbers, &c.*

Table II. shews the proportionate number of articular injuries in about 1,800 wounded officers and men during little more than twelve consecutive months.

“The average may be stated, therefore, as between 4 and 5 per cent., or about 1.22 of the whole number of 1,800 wounded; the injuries to the articula-

tions counting 82. In a return already published of wounded *men* admitted into the General Military Hospital of San Telmo, in thirteen months, amounting to 1,351, the average is less. In the returns of the different actions it varies from 1 in 30, to 1 in 52; but in these are not included many of the worst joint cases, amputated on the field, which appear in the return as 'Field Amputations.' I consider, therefore, the Return No. II., formed with the greatest care and accuracy, to give the true average. In the returns already quoted of 1,351 wounded, at San Telmo, the proportion of injuries of the head was 7 per cent.; wounds of the trunk penetrating its cavities, between 4 and 5 per cent.; of fractures of the extremities, about 13 per cent., in which are included the joint cases; of severe wounds not in these classes, 33 per cent.; of slight wounds about 44 per cent.

With respect to the relative numbers in the different articulations, of the 82 recorded, nearly one-half are of the knee.

Knee ..	35:	proportion, 2:342:	mortality, 22
Elbow ..	19:	about 1.4	5
Shoulder ..	11:	between .. 1.7 and 1.8 ..	3
Wrist ..	7:	.. .. 1.12	0
Ankle ..	6:	.. .. 1.55	1
H.p ..	4:	.. .. 1.20	3
<hr/>			
Total ..	82	Total ..	34"
<hr/>			

2. Mortality, absolute and relative.

The mortality amounted to 34 cases in 82, including in the number treated those injuries which did not, in the first instance, implicate the structure of the joint, but only at some later period, by the progress of diseased actions spreading from the original site of injury. The number of cases in which the joint was primarily and directly implicated amounts to 65; 17 were only secondarily affected. Of the 65—

between 1.5 and 1.6, 12 were cured with more or less of motion and power, but all with some use of their limbs.

1.2-2, 3 intermediary* amputations were performed, and two patients died.

1.6, 11 secondary amputations; 5 deaths.

1.3 21 primary amputations; 7 deaths.

Between 1.3 and 1.4, 18 did under treatment, while the attempt was being made to save the limb, either in the hope of success,

Total 65 or, more frequently, from the patient's refusal to submit to amputation. The result, therefore, stands thus—

33 recovered; 21 with loss of limb.

32 died; 18 without amputation;

7 after primary amputation;

2 after intermediary;

5 after secondary.

Total 32

* The term intermediary amputation refers to those performed between the third and twentieth days inclusive,—a period during which the febrile and inflammatory actions have commenced, rarely entirely subsided.

The mortality in the 3 classes stands thus, as regards the whole number of 65:—

About 1.9, or 7 died after primary amputation;

1.9, or 7 died after subsequent amputations;

Between 1.3 and 1.4, or 18 died during treatment without operation.

Total 32

These facts certainly tell in favour of primary amputation; for the 44 treated without it present a mortality of .25, more than one-half, whereas the primary amputations cause a loss only of one-third, although naturally performed for the very worst injuries: and while 12 only were cured without loss of limb, 18 died in the vain attempt to save, without, for the most part, offering any fair opportunity of remedying the evil by intermediary or secondary amputation.

Of the intermediary and secondary amputations, where treatment failing to save the limb, amputation offered the only ground of hope for life, 7 died out of 11, amounting to one-half; but of the secondary amputations, properly so called, a fraction less than one-half were lost, 5 in 11. These cases form the forlorn hopes of surgery; all saved are snatched from nearly certain death.

Mr. Alcock says a few words on the comparative fatality of injuries of the different articulations.

The hip is more rarely the seat of direct injury from foreign bodies than any of the articulations. The result is generally fatal; three in four died; and in the fourth, where recovery took place, the joint itself, there is some reason to suspect, was but remotely affected.

The shoulder is rarely implicated directly by injury without a subsequent operation, amputation, or excision of the head of the humerus, being required. In 11, which occurred in the series of 82, only 2 were cured without amputation; 7 amputations were performed, 6 primary, and 1 intermediary; the latter was uncruminate in its result; all the primary recovered.

Amputation of the shoulder is a successful operation. In 9 cases there was but one death.

Injuries of the knee are the most numerous, and with the exception of the hip, the most fatal to life, and generally, at last, leading to the loss of limb: of 35 of the knee, 22 lost their lives, and of the remaining 13 who were saved, 8 lost their legs. The primary amputations amount to 9, and 4 died; they are decidedly more trying injuries to the system than those of the shoulder, not only by the double shock being great, as proved by this result, but by the gravity of the actions, to which the original injury gives rise. Thus there were 3 intermediate amputations, and 9 secondary, and only 4 recovered out of the 12, or one-third, two-thirds dying.

Injuries of the elbow stand next in order of frequency, making a total of 19 cases, 5 of which were fatal; 10 were cured without loss of limb, but nearly all with ankylosis, complete or partial; 1 died during the attempt to save the limb at the 120th day, of angina pectoris; 4 out of 7 primary amputations died, all with disease of chest or liver; 1 secondary amputation recovered.

The ankle is not often injured directly. There were but 6 cases; 1 died

and that from effusion into the serous cavities, anasarca, the limb erysipelatous and gangrenous; 3 required amputation, 1 primary, 2 intermediary,—all recovered.

The wrist is, upon the whole, more frequently injured, but in no proportion to the knee, and much less often than the elbow or shoulder. In 7 cases included in the series of 82, all recovered; 1 after secondary amputation.

Mr. Alcock has not included gun-shot fractures of the bones of the hands and feet in the returns of injuries of the joints—the articulating surfaces escaping serious damage surprisingly. And indeed the large bones may be splintered or perforated close to the great joints, without the latter being implicated.

3. Causes of Death.

Of forty-three fatal cases—

23 died under treatment for the original injury.

4 — after intermediary amputation.

5 — after secondary amputation.

11 — after primary amputation.

—
43 Total.

Of the 23 that died under treatment—

11 died of a wasting discharge and febrile action— hectic fever chiefly; the demands on the constitution great; the diseased action unconquered; disease from 8 to 72 days' duration;

2 with chronic tetanus, and one of these accompanied by hectic fever, the other by organic disease, namely, congestion of lungs, and abscesses of the left lobe of the liver;

1 from mortification;

1 delirium tremens;

1 with secondary hæmorrhage;

2 one with effusion into the serous cavities, and the other angina pectoris, both chest affections;

2 from the effects of other grave injuries;

1 from shock;

2 from causes not known.

—
23 Total.

Mr. Alcock does not conceive that injuries of the articulations are peculiarly prone to be followed by "purulent disease"* elsewhere. Nor do we see any reason why they should be so.

"In the injuries of the articulations for which amputation was performed, there were twenty deaths; and in seven the chief cause appeared, after death, to be purulent diseases in distant parts.

In gun-shot fractures not connected with the joints, the number of deaths after amputation was thirty-five. In eleven, the same effects were observed; one was of doubtful character, the cavity not having been examined; and two had

* By this expression we presume Mr. A. intends to designate the secondary inflammations and deposits.

pus in the blood-vessels, one in the femoral vein and artery, the other in the femoral vein alone.

Does this result depend upon the original injury? or is it to be considered as an effect of the amputation? The larger number after amputation must prove that the operation has a powerful influence, while the occurrence of precisely the same results in both sets of cases, in which no operation was performed, equally proves that amputation is, at least, not the only cause. Since both the injury and the amputation are each followed by these results, although in very different proportions, it seems most probable that in the greater numbers presented by amputations, the two shocks of the injury and the operation combine to produce this fatal effect.

This view is borne out by the fact, that such causes of death occur in the great majority after *primary* amputations, and not after those performed in subsequent periods, least of all in the secondary period.

In the injuries of the articulations, only one occurred after intermediate, and none after secondary amputation: and in fractures only two cases, in like manner, after intermediate amputation. Thus the operations of the period nearest to the primary are the only ones that are followed by these peculiar effects in the series under consideration." 281.

Our author presents a resumé of the causes of death in the four classes, which shews that the chief danger and cause of death in cases treated to the end without operation, is hectic fever; and a variety of accidental or irregular complications, such as secondary hæmorrhage, epidemics, erysipelas, gangrene, &c., combined, form the remaining half.

The cases in which amputation is performed, in the first instance, with fatal result, present a very different cause of mortality: the chief agent being purulent disease of lungs or liver, and occasionally inflammatory affections of the lungs or pleura. Fevers irritative or bilious destroy more than one-third.

The deaths after intermediary amputations are chiefly caused by febrile action, irritative or bilious; and in secondary amputations, the shock of the operations, hectic, and some accidental complications carry off the patients, already much reduced by suffering and the long continuance of wasting discharges. The results of secondary amputations, when fatal, and their causes of mortality, are in some degree assimilated to those predominant in cases treated to the end without operation.

Mr. Alcock furnishes three other returns, with the view of showing the influence of favorable and unfavorable collateral circumstances. They exhibit in a striking manner the low mortality in the former, the high in the latter. But for this we must refer to the memoir itself.

The Third Part of that memoir is devoted to the,—

CLASSIFICATION OF KINDS OF INJURY IN WOUNDS OF THE ARTICULATIONS

Mr. A.'s object is, if possible, to supply a *definition of those kinds of direct injury, in which we shall be justified in making the endeavour to save a moderately useful limb.*

I. After relating three cases, Mr. Alcock draws these conclusions from them.

1. A mere fissure of a joint, extending from a fracture, partial or complete, is not necessarily followed by severe, extensive, or destructive action

in the strictures of the articulation. If any other attendant circumstances, therefore, do not forbid, the attempt may be made to save the limb, with a fair prospect of a favorable result.

2. A foreign body, a musket-ball, for example, lodged either in the cancellated structure of the tibia or femur, may or may not penetrate the articulating surface, or project beyond it.

He continues.—“If it do not penetrate to the articular surface, it does not *necessarily* implicate the joint, or lead to any diseased action therein, and may at some later period be removed, if that be not possible at the time. If it do penetrate, but be smooth in surface, and not projecting beyond the level of the articulating surface, the same rule holds good, viz., that violent diseased action is by no means a necessary consequence, and I have been led to believe that in such a case, ankylosis, and a useful limb may, in many instances, be the result of careful treatment.

If the missile project, or if it be roughened or cause any jagged projection of bone, the most destructive and rapid disease of the whole articulation follows, and in the knee especially, will inevitably lead either to amputation or death. In the elbow I have known such a case saved; in the knee never.

The following is the line of practice, therefore, which it seems to me should be acted upon. When any foreign body has penetrated the end of a bone forming an articulation, the surgeon should endeavor, by finger or probe, to obtain an accurate knowledge of its position. If he concludes, after such examination, that there is no projection into the articular surface, and it cannot be removed without great additional violence to the parts, such as burying the head of the trephine deep in the spongy end of a bone, the attempt should not be made, but the limb may be treated with a view to saving it. If we fail in this, a period will probably arise favorable to the performance of secondary amputation, and to its successful issue. If the ball has, on the contrary, penetrated into the joint, fracturing its way, and remaining either fixed or loose in the articulation, there is only one chance of safety for the patient's life, and none for the limb. Immediate amputation I believe to be the best and only judicious practice. 300.

II. Our author proceeds with the relation of two other cases, from which, and from some like them, he concludes that—

When the end of a bone, entering into an articulation is traversed by any foreign body or missile, more especially if it pass between the condyles of the femur or humerus, even though the integrity of the capsule, at one or more points, should be injured, if there be no detached fragment of bone, the joint, in many cases, may be saved; and the attempt may generally with propriety be made, when no other injury or unfavourable circumstance is superadded.

III. A successful case, in which a musket-ball apparently traversed the knee-joint, without occasioning fracture of the bones, succeeds. And Mr. Alcock remarks upon it:

“Upon cases of this class I have drawn the following conclusion. Wounds of the capsule, and even the traversing a joint by some missile or weapon, provided neither bone nor cartilage be seriously injured, do not require or justify amputation as a first remedy. The majority may be saved, even should the motion of the joint be more or less impaired; a useful limb may still be preserved.

Contrary to the general impression, I am strongly inclined to the conclusion, that injuries to joints are not fatal in proportion to the extent of surface laid

open. The most dangerous of these wounds I believe to be punctured, or such wounds as a musket-ball creates.—a small, lacerated, and contused opening, with more or less mischief to the external parts. The most violent inflammatory action ensues in the highly susceptible synovial membrane, which, for a certain period, or until disorganization (the result of violent action) takes place, still retains its distinctive characters of serous or synovial membrane. Fluid is effused and pent up—the whole limb becomes involved—the system takes the alarm, and sympathises often to a certain extent. No kindly suppurative and granulating action takes place over the surface of the synovial membrane, altering its characters and susceptibility,—a result which follows not unfrequently in a wound laying a joint fairly open, quickly destroying, of course, the texture and character of synovial membrane, and leaving ankylosis as the only favourable result possible. But under such injuries, this is the happiest result we can ever look for; and the patient who so escapes has reason to be well satisfied that he has lost only the motion of a joint instead of a limb, or his life, or, as frequently must happen, the one first, and the other afterwards.” 307.

IV. Mr. Alcock relates the case of a young gentleman, who met with a severe accident in leaping a railing, consisting of parallel bars. His foot caught, and his body was precipitated over, while he hung, with his leg engaged between the bars, for some seconds, before he could be disengaged. The knee was partially dislocated, but reduced at the time. Great extravasation of blood occurred in the ham, a tourniquet was applied, the femoral artery was tied in the upper part of the thigh, mortification followed, and the patient died on the tenth day. The crucial and posterior ligament of the knee were torn; the semi-membranosus muscle torn from its tendinous sheath: the popliteal artery and vein nearly torn asunder; the joint, and all surrounding parts, loaded with extravasated blood; the nerve uninjured.

Commenting on this case, Mr. Alcock is inclined to think that when there has been great violence offered to an articulation, sufficient to produce dislocation, and evident injury to a large blood vessel in the vicinity, an incision should be made down to the vessels, and the nature and extent of the injury ascertained. If the artery alone be implicated, the capsule not extensively lacerated, nor blood extravasated within, a ligature may be placed above and below the ruptured point of the artery, and the case treated with a view to saving the limb. If any of these adverse circumstances be found, amputation should be proceeded with.

There will perhaps be a difference of opinion among surgeons on this point. An incision in the midst of a great mass of extravasated blood (and a moderate extravasation would scarcely justify it) would be far from unattended with serious danger of subsequent suppuration. And it would probably be likewise far from easy to discover or to tie the vessel under such circumstances. It must be owned that such a case is embarrassing.

We pass over a very interesting case under the care of that able surgeon Mr. White, of the Westminster Hospital, as well as a case in which the heads of two or three of the metacarpal bones were partially removed by a circular saw, with much laceration of the soft parts, and turn to the last case related by our author.

A gentleman, in 1835, was thrown out of his gig, and fractured the upper third of the ulna into the elbow joint. He was a stout muscular man, and considerable swelling supervening, before his surgeon saw him, the fracture

did not seem to have been discovered until some degree of union had taken place, and that at such an angle, that a sharp peak projected at the posterior surface, rendering any attempt at flexion painful in the extreme, "cutting like a knife," as the patient described, from the stretching of the skin over the sharp end of the bone. Gentle passive motion and friction had been employed when Mr. Alcock saw him. Mr. A. came to the opinion that mere ligamentous bands, uniting the two fragments at an angle prevented the flexion of the arm, and that it required regulated, but considerable force, to elongate these. Before it could be attempted, the sharp projecting end of bone required removal. Sir A. Cooper concurred with Mr. Alcock, and the latter removed the projecting end of bone, and, as soon as the incision was soundly healed, he employed, morning and evening, a moderate degree of forcible extension, gaining by measurement, a very little each two or three days, but never proceeding so far as to excite inflammation. The case rapidly improved, and he has long recovered the perfect use of his arm, can carry his hand to the shoulder of the same side, row, &c., without pain or difficulty.

Mr. A. concludes, from cases of this description, that, wherever a partial ankylosis takes place, proving that there is not that kind of bony union, (of which there is a fine example among the specimens,) and no fragment of bone locks, so as to give the conviction, that unless it be broken, no farther progress can be made, the limited motion will generally be found to depend upon ligamentous bands or adhesions, which will elongate by the judicious use of force, to be employed twice daily, neither violent, nor long-continued, but so as perceptibly to gain by measurement, something, however little, each two or three days. In such cases, the gentle kind of passive motion, together with the frictions generally recommended, are perfectly inadequate, and altogether useless, except during the first few days after union, to facilitate the absorption of the effusion and thickening which may remain in the soft parts.

Mr. Alcock winds up this valuable memoir with a classification of injuries of joints, in reference to the principle of their treatment.

First Class.

1. Incised or lacerated wounds penetrating the capsule.
2. Penetrating wounds, with partial abrasion or contusion of articulating surfaces.
3. Simple fractures into joints, with more or less displacement, and subsequent confined ligamentous union.
4. Fissuring of articulating surfaces, from compound fractures, complete or partial in the vicinity, but without displacement of bone within the capsule.

"In this first class are included those cases, the great majority of which may be saved, and when it should be a principle of practice to attempt it. Of course, in the last division, fissuring from compound fractures, much judgment is required, to determine the curability of the fractured limb; the rule laid down is applicable only *quoad* the articulation. Moreover, in cases of fissuring from compound fractures, it will often happen, that only the head, or head and neck of the bone may be seriously damaged, and this, either with or without a foreign body lodging. Several fine specimens of this kind of injury are among my pre-

parations. Here the limb may be frequently saved, as I have already shown, though not the joint, by excision of the head of the bone, or removal of the fragments." 318.

Second Class.

1. Foreign bodies lodged in the ends of bones, either not presenting in the articular surface, or on the same level and smooth.
2. Foreign bodies traversing the ends of bones, without detaching fragments from the articular surfaces
3. Internal laceration of ligamentous structure, with lesion of blood-vessels, and with or without temporary displacement of articulating surfaces.
4. Separation of shaft from epiphyses with possible laceration of capsule, but not extensive.

This is a sort of *intermediate* class between those in which the rule is to attempt to save, and those in which the rule is the reverse.

Third Class.

1. Compound fractures into joints, with displacement and roughened edges.
2. Foreign bodies projecting into articulation, or traversing with extensive injury to structure.
3. Lacerated wounds of capsule, with much contusion and injury to internal structure of articulation, and with extravasation of blood into the joint.

The plan, here, should be to amputate without delay, unless excision of the head of the bone be deemed advisable. In the second kind of injury in this class Mr. Alcock has never known recovery to take place, when any of the large articulations were affected, rarely even when the injury was in the smaller.

"An extensive injury to a joint will sometimes destroy the patient by the shock. Or a wound of an articulation may be complicated with some other grave injury; such as a penetrating wound of the chest. Unless the second wound be of fatal character, I do not think it should prevent the necessary steps being taken with reference to the joint. In one such case, I amputated at the shoulder joint, and although the patient ultimately died, having been seized with a bilio-remittent fever, which attacked nearly all the amputations of the period, he did not die till the thirty-first day: the lung, however, presented no trace of active disease, although the wound was in the chest, the morbid actions seemed to have been expended upon the vicinity of the articulation.

The most excessive action sometimes follows a slight injury and I have known erosion of the cartilages take place in five days. In another case, a superficial wound of the inside of the knee seemed to develop the most frightful actions, local and general, destroying the limb with suppurative disease, and consuming all vital power by fever. The ball which had curved down towards the hamstrings, but still superficially, I removed on the sixth or seventh day, and he died about the fifteenth.

At other times there will be, comparatively, little action in the joint itself, and the whole mischief be expended below; or again, I have known a joint filled with pus, but no erosion or alteration whatever in the cartilages.

It is worthy of remark, also, that a joint often becomes secondarily affected, and with so little attendant pain, as to escape observation for some time." 322.

We think Mr. Alcock entitled to the thanks of the profession for this very able and useful paper. It will tend to direct attention to injuries of the joints and to give precision to our views in treating them.

VI. ON ANEURYSMS, AND ESPECIALLY SPONTANEOUS VARICOSE ANEURYSMS OF THE ASCENDING AORTA, AND SINUSES OF VALSALVA. WITH CASES BY JOHN THURNHAM, ESQ.

Mr. Thurnam, a gentleman well known to our readers by his zealous investigation of several pathological points, has contributed an able memoir on aneurysm of the ascending aorta. We shall notice the principal points in it. Mr. Thurnam observes:—

“In consequence of witnessing a remarkable case of aneurism of the right aortic sinus of Valsalva, which opened in the right ventricle, (see case 7.) my attention became directed to the probable effects of aneurism of each of the three aortic sinuses, especially in relation to the particular cavity, whether of the heart, of a blood vessel, or of the pericardium, with which, in case of their becoming ruptured, they would probably communicate. I have endeavoured to determine this question, by two modes of investigation: Istly, by anatomical examination and experiment, and 2dly, by comparing the results of cases of aneurism thus limited, whether recorded in the annals of medicine, preserved in museums, that I have visited, or occurring under my own observation.” 325.

Omitting a brief, but sufficient, account of the relations of the ascending aorta, we pause at a description of the sinuses of Valsalva—three roundish dilatations corresponding to the three semilunar valves.

“These sinuses have hitherto, not been generally indicated by names; for the sake, however, of convenience in this paper, I shall speak of them as the right, left, and posterior aortic sinuses. By the right and left, I mean the two sinuses which are seated anteriorly, and from which, respectively, the right and left coronary arteries arise: and by the posterior, I intend that which does not give origin to any coronary vessel. The term posterior, which is sanctioned by the authority of Valsalva himself, appears to me to indicate the position of the sinus last alluded to, better than that of ‘intercoronary,’ which has been applied to it by M. Bizot. All the sinuses are imbedded in the soft fat, generally found at the base of the heart; but the right is seated more superficially than either of the other two.

By passing needles through the coats of the aorta, in the situation of the sinuses, I have ascertained, that when affected by aneurismal or other disease, any one of them might become ruptured into the pericardium; but that the right is more liable to do so than either of the others. By the same means, I have found, firstly, that the right sinus might form a communication with the top of the right ventricle, with the pulmonary artery, or with the right auricle at the mouth of the appendage; secondly, that the left aortic sinus might become ruptured into the left auricle, the left ventricle, or the pulmonary artery; and thirdly, that the posterior aortic sinus might open into either the right or left, though more readily into the right auricle. I have likewise found that the ascending aorta, for some distance above the valves, has very similar relations to the adjacent parts as the sinuses themselves; but that, as indeed is obvious from simple inspection, the relations of aneurisms of the higher part of the ascending aorta, are with the superior vena cava on the right; the pulmonary artery on the left; the pericardial cavity in front; and with the right pulmonary artery and veins, and with the right, and in a less degree, the left bronchus behind.” 327.

Liability of the respective Sinuses to Aneurysm, and their relation to adjacent Parts.

The Paper contains references to eighteen cases of aneurysm, more or

less accurately limited to the aortic sinuses. In two of these cases there were aneurysms so limited in two of the sinuses; and, in another instance, the three sinuses were all affected. Of these twenty-two aneurysms, twelve were seated in the right, four in the left, and six in the posterior aortic sinus. Thus the right sinus *seems* more liable to aneurysm than either of the others. Of the twelve aneurysms seated in the right sinus, two were of an incipient form, and, doubtless, projected into the pericardium; two had ruptured into that cavity; six projected into, and one had actually formed a communication with the highest part of the right ventricle. Of the four aneurysms seated in the left sinus, one had become adherent to the left auricle; and another had formed a large tumor in the upper part of the left ventricle. Of the six aneurysms seated in the posterior sinus, two were incipient, and probably projected into the pericardium; one projected, as a round tumor into both the auricles, but principally into the right; and one probably had become ruptured into the sinus of the right, and another into that of the left auricle.

Mr. Thurnam thinks that that portion of the ascending aorta which is immediately above the valves, is probably even more liable to circumscribed true aneurysm than are the sinuses of Valsalva themselves. But he is inclined to believe that those portions of the ascending aorta which are directly above the attachment of the semilunar valves, and which consequently are seated above and between the aortic sinuses, and more liable to the formation of aneurysm than are the intermediate portions. He is able to refer to ten cases thus seated. Of the eight aneurysms seated above the attachment of the right and left aortic valves, three had become ruptured into the pericardium; one projected, and threatened to burst into the right, and another into both the right and left ventricles of the heart: whilst, in four cases, the aneurysmal sac was ruptured into the pulmonary artery. In one case seated above the insertion of the right and posterior valves, the sac had become ruptured into the right auricle; and in another, above that of the posterior and left, the sac appears to have projected into the sinus of the left auricle, and had become ruptured into the pericardium.

Varicose Aneurysm.—This, and aneurysmal varix have till lately been regarded as necessarily preceded by a wound of the artery and vein. But says Mr. Thurnam—

“Previously, however, to the publication of the memoir of M. Breschet, Mr. Syme had narrated an interesting case of spontaneous varicose aneurysm in the abdominal aorta and cava. Two important cases likewise, the one by Mr. Porter, and the other by Mr. J. G. Perry, in which spontaneous varicose aneurysms existed in the popliteal and femoral arteries and their accompanying veins, have also been published; for the precise nature of the latter case having been established by dissection, that of the former appears to me no longer conjectural.” 330.

Mr. Thurnam points out the peculiar liability of the ascending aorta to varicose aneurysm, from its anatomical relations, and he adds—

“It may perhaps be necessary in this place to meet the objections that very possibly will be made, that to call an aneurysmal sac which has ruptured into one of the right cavities of the heart into the pulmonary artery, a spontaneous varicose aneurysm, is a ‘pathological transcendentalism,’ ‘founded on a far-

fetched, though ingenious analogy.' I have, therefore, been gratified to find since a great part of this paper was written, that Mr. Smith of the Richmond Hospital, Dublin, has taken a similar view of the subject; and has anticipated the probable occurrence of such a lesion as spontaneous varicose aneurysm, in the very centre of the circulating system. In remarking on a case to which I shall have to allude, and the preparation of which I have had the advantage of inspecting in his company, Mr. Smith observes, 'had the sac yielded where it projected into the right ventricle, there would have been formed a varicose aneurism of a new and extraordinary description, and I should think not of necessity at once fatal.'

But it is not merely on speculative grounds that I would contend for this view of the subject; for, as I hope to show, there is somewhat more than a general analogy between the phenomena presented by the ordinary varicose aneurysm of the extremities and those observed in the cases under consideration " 332.

Mr. Thurnam details in succession the following cases—

1. Spontaneous varicose Aneurysm of the Abdominal Aorta and Vena Cava.
2. A similar case.
3. Spontaneous varicose Aneurysm of the abdominal Aorta and Vena Cava. Death in a few hours after the probable period of formation of the opening.
4. Spontaneous varicose Aneurysm of the Ascending Aorta and Superior Vena Cava.
5. Spontaneous varicose Aneurysm of the ascending Aorta and appendage of the right Auricle.
6. Spontaneous varicose Aneurysm of the three Sinuses of Valsalva, right Auricle and Termination of the Superior Cava.
7. Spontaneous varicose Aneurysm of the Right Aortic Sinus and summit of the Right Ventricle of the Heart.
8. Spontaneous varicose Aneurysm of the ascending Aorta and Pulmonary Artery. Death nine hours after the probable period of formation of the opening.
9. Spontaneous varicose Aneurysm of the ascending Aorta and Pulmonary Artery.
10. Spontaneous varicose Aneurysm of the Aorta and Pulmonary Artery. Death in about twelve hours after the probable period of formation of the opening.
11. Spontaneous varicose Aneurysm of the Arch of the Aorta and the left Pulmonary Artery, corresponding to the situation of the Arterial Duct.
12. Spontaneous varicose Aneurysm of the ascending Aorta and Pulmonary Artery. Sudden death at the time of the probable formation of the opening.

Such of our readers as are anxious to peruse these cases we must refer to the volume of Transactions that contains them. We proceed to the conclusions which Mr. Thurnam draws from them. We should observe, that, in addition to the twelve cases whose titles we have given, Mr. T. describes, in a note, the preparations from six others, in which spontaneous varicose aneurysms had existed. Of all these, three were seated in the descending aorta and vena cava. The others, excepting one in the arch, were all seated in the ascending aorta or its sinuses; and communicated, one with the superior

vena cava, two with the right auricle, one with the right ventricle, and eleven with the pulmonary artery.

History.—The twelve patients were all the male sex. Two were from twenty to thirty, four from thirty to forty, two from forty to fifty, three from fifty to sixty, and one sixty years of age. One was by profession a merchant, one a coachman, much exposed to wet and cold, one a butler, one a baker, one a tinsmith, and another a porter; the three latter were all accustomed to lift heavy weights. The profession of the six other patients is not stated; excepting that one of them was a gentleman.

The habits of the merchant and baker were temperate; of the coachman, tinsmith, and another, decidedly intemperate; whilst those of the other seven are not stated. One had sustained an injury on the back two years and a half before; another had complained, for two years, of severe pain stretching across the loins; and two had suffered from acute rheumatism, the one ten, and the other thirteen years before the appearance of symptoms of aneurysm. One had an attack of hemiplegia nine years previously, and had complained of pain and swellings in the hands and feet, for two years before the attack; one had suffered from dyspnoea and palpitation, during the greater part of his life; one from slight bronchitic symptoms and præcordial uneasiness for some months; and another from marked symptoms of disease of the heart, during six months.

Mr. Thurnam properly observes that the foregoing features rather bear on the etiology of aneurysm generally, than on that of spontaneous varicose aneurysm in particular.

Mr. Thurnam proceeds to observe that the communications between the artery and vein would seem to be formed in one of two principal modes. In six of the cases, the opening into the venous system seems to have been formed very suddenly; in consequence, in four of them, of some more or less unusual exertion or effort, previously to which the patient had been in ordinary health. In two of these cases, the effort consisted in raising heavy weights; in one, in playing with children, after a fatiguing walk, which had been followed by a hearty meal; and probably in the other, it was the result of the action of drastic purgatives.

In these cases the aneurysmal sacs were, no doubt, ruptured. In the first of the four, the symptoms consisted of a sensation of something giving way in the chest; in the next, of faintness, dyspnoea, and palpitation, with pain, and a sense of something cracking about the heart; in the next, of vomiting, oppression in the chest, and constant desire to cough, with bloody expectoration; and in the last, of a sudden increase of dyspnoea and feebleness of pulse. In two cases likewise, where the patient does not seem to have been exposed to any particular exertion, the preternatural communication was evidently formed in an equally sudden manner; and was indicated, in the one, by great depression and violent vomiting; and in the other, by severe dyspnoea and insensibility.

In most of the cases, however, the openings probably resulted from a gradual softening, or ulceration of the walls of the sac. For, in three, the mode of attack is not particularly specified; in another, however, we find that there was no sudden seizure, but that the patient suffered for some time, from pains in the neck and shoulders, which ceased more or less com-

pletely, as the symptoms of the varicose communication appeared. In the three cases in which the aneurysms were seated in the descending aorta, the symptoms were preceded by pains in the region of the back; and, in the two former of these also, there appears to have been no sudden seizure.

Symptoms.—Mr. Thurnam regards these in connexion; 1stly, with the external surface and system generally; 2ndly, with the respiration; and, 3rdly, with the state of the heart and great vessels.

1. Excepting, writes Mr. Thurnam, two or three cases in which the patients died almost immediately, the external surface in all presented very decided signs of an obstructed circulation. In four, the animal heat appeared to be more or less remarkably deficient. In six the surface, especially that of the face, was livid or bloated; and in one of these the livor extended to the mucous membrane of the fauces and soft palate, the colour in the face being of a peculiarly pallid character. In one of the cases, in which the descending aorta and inferior cava were the seat of the lesion, the veins of the abdominal parietes were large, tortuous and distended. In the two cases in which the opening was in the superior cava, many of the superficial veins of the upper half of the body, particularly those of the face, neck, front of the chest, and back, were permanently distended, and almost varicose. A similar but more general condition of the superficial and other veins, also existed in two other cases.

Dropsical infiltration of the surface was the most uniform symptom noticed, and was present in all the cases, eleven in number, in which the symptoms are detailed, excepting three, in which death very speedily occurred after the formation of the varicose opening. The anasarca in all was very decided, and advanced very rapidly: in one case, it made its appearance on the twentieth day from the date of the intervacular communication. It involved all those parts of the body, the veins of which were distal to the opening in the venous system. Thus in the case in which the aneurysm opened into the superior cava, and in that in which it opened into the top of the right auricle, the anasarca of the face and arms was remarkably contrasted with the uninfiltated state of the lower half of the body. In two cases, in which the abdominal aorta and inferior cava were the seat of the varicose aneurysm, the anasarca of the legs and lower half of the body was equally strongly contrasted with the free, and in one case, emaciated state of the arms.

In three other cases, in which the aneurysm opened into the appendix of the right auricle, the right ventricle, and the pulmonary artery respectively, the venous system of the whole body being distal to the varicose orifice, we find that the dropsical infiltration was little short of being universal; though, as in all cases of general dropsy, the lower extremities were most decidedly affected. There was, likewise, more or less ascites in these three cases. The extreme debility, also, with emaciation, which was noticed in two of the cases, ought, probably, to be regarded as a symptom proper to the lesion under consideration. In one instance, sloughy sores formed on the shins; and in another, sloughing of the scrotum supervened on the operation of acupuncture.

2. Excepting two cases in which this symptom is not mentioned, there was more or less dyspnoea in all; but in four the oppression and difficulty

of breathing were not very severe, excepting, in most of them, towards the fatal termination, and were chiefly noticed after exertion. In the other six cases the dyspnœa was extreme, and amounted to orthopnœa, in the two former, of a most aggravated character, the patient dying from a slowly developed apnœa (asphyxia). There appears to be reason for believing that the urgency of the symptoms generally, and especially of the dyspnœa, is in proportion to the size of the opening into the vein, and to its proximity to the lungs; and, consequently, that this symptom, *ceteris paribus*, is more severe when the aneurysm communicates with the pulmonary artery, than when it opens into the inferior or superior cava. Cough is stated to have been present in every case but five; and in several instances it was particularly distressing. It was almost uniformly attended by expectoration; and in two cases only, where there was cough, is this symptom not mentioned. The sputa were more or less mixed with blood in three of the cases.

But to appreciate the cause of the dyspnœa, it is necessary to look to the condition of the lungs and pleuræ. In one case, the pleuræ were uniformly adherent, and in seven hydrothorax, to a greater or less extent, was present; though, perhaps, in four cases only, was the fluid in such quantity as to have materially affected the respiration. It is most probable, that this effusion into the pleural cavities is to be regarded as a consequence of the varicose communication. In one case, there was pulmonary apoplexy; but, excepting for the most part, slight congestion and œdema of the tissue of the lungs, in five or six instances, these organs appear to have presented no other lesion. It may then be observed, that the severity of the dyspnœa, &c., in very few of the cases, bore any proportion to the degree of pulmonary complication; consequently we must, in the main, attribute these symptoms to the varicose aneurysm.

3. In five of the cases, continues Mr. Thurnam, there were palpitations of the heart, in one, præcordial pain. As, however, these were precisely the cases in which the heart itself presented the most decided traces of disease, in the shape of hydro-pericardium, dilatation and valvular lesion, it is doubtful how far we can look upon the symptoms alluded to, as directly belonging to the varicose communication. The pulse presented distinctive characters in all the cases, eight in number, in which it is noticed; if we except one, in which it is briefly stated to have been "hard," a character which it is difficult to reconcile with a communication between the ascending aorta and vena cava. In four of the cases, the pulse was decidedly "jerking;"—the terms, "vibratory," "hæmorrhagic," "resilient," and "thrilling," applied by three of the observers, evidently referring to one and the same character. In another case, it was stated that there was a distinct interval between the impulse of the heart, and the pulse, as felt at the wrist. In the other two cases, the pulse was chiefly distinguished by being extremely feeble; and this was likewise the case in two of the instances in which it was jerking. In one, the pulse was much weaker in the left than in the right wrist; and in three cases, it became either intermittent or irregular in the progress of the disease.

Physical Signs.—"In the first only of the two cases of varicose aneurysms of the descending aorta and inferior cava, were the physical signs noted; and in this they consisted of a pulsating tumour of the abdomen, with an incessant

wizzing sound proceeding from the same part, and audible both to the patient himself, and to those around. In the case in which the aneurism opened into the superior cava, there was a distinct impulse detected under the right clavicle, and on the right border of the first piece of the sternum; and a loud murmur was also heard in the same situation. In the case in which the aneurysm communicated with the appendage of the right auricle, a distinct pulsation and a bellows murmur were also perceived on the right of the sternum.

In the instance in which the varicose communication existed between the ascending aorta and the upper part of the right auricle, there was a loud double bellows' sound, which was particularly heard over the upper part of the sternum; the systolic portion of the sound was more prolonged, the diastolic sharper and shorter.

The physical signs, as observed by myself, in the case in which the aneurysm opened into the summit of the right ventricle, differed remarkably from the preceding, as to the situation in which they were heard. There was dullness on percussion in the præcordial region, which extended to the level of the second rib. The healthy sounds of the heart were scarcely audible, and that only in the arteries of the neck. Throughout the præcordial region, and indeed over nearly the whole thorax, a continuous sawing sound was heard. This sound was loudest during the systole, less loud during the diastole, and still less so during the interval: it was most distinct in the second intercostal space, about an inch and a half from the sternum; where, in a spot that might be covered by a shilling, it was intensely loud and superficial; and in the same spot there was a most distinct and superficial purring tremor. In this case it is to be recollected that the heart was displaced somewhat to the left, by dropsy of the right pleura. Dissection proved that the spot where the murmur was heard and the tremor felt most distinctly, corresponded precisely to the situation of the varicose orifices.

The physical signs in the first of the cases of varicose aneurysm, connected with the pulmonary artery, were not at all noticed, but it is to be observed that this occurred prior to the great discovery of Laennec. In the next case, in addition to increase though not forcible impulse, and dullness or percussion, in the region of the heart, there was a loud blowing sound heard over the front and back of the chest, but most distinctly at the middle of the sternum. In this case also the murmur would appear to have had a continuous character. In the remaining cases the physical signs do not appear to have been noticed, at least not after the formation of the varicose opening." 369.

There were in several of the cases other symptoms not of so specific, or distinctive a character—such as dizziness, a blood-shot state of the eyes, impairment of speech, hæmaturia, and melæna.

Pathology.—When, says our author, a communication exists between the ascending aorta and an adjoining part of the venous system, the arterial blood, in consequence of the greater power of the left ventricle, is propelled through the opening, becomes mixed with the venous blood, and is carried forward with it to the lungs. The pathological effects consequently resulting, are hence obviously referrible to one of three circumstances.

In the first place; a portion of arterial blood is abstracted and regurgitated from the arterial system: and the arteries, consequently, are imperfectly filled. As a consequence, the pulse is feeble, and peculiarly jerking; the surface, and especially the countenance, loses the ruddy hue of health; the animal heat is diminished; and, the various organs being imperfectly nourished and stimulated, there arise emaciation, debility, loss of musculature.

power, with a disposition to syncope, to gangrene, and even to softening of the heart and internal viscera.

Secondly; the stream of arterial blood, which is constantly passing into the venous system, acts as a direct and powerful impediment to the return of the venous blood from the veins distal to the varicose orifice; and this is an effect which, in some cases, is assisted by the pressure of the aneurysmal tumor. Hence arise, in the parts so situated, livor of the skin and mucous membranes; venous congestion of the glandular system, especially the liver; engorgement and dilatation of the right cavities of the heart; distention, and a varicose condition of the sub-cutaneous and deep-seated veins; passive hæmorrhages; dropsical effusions, especially in the shape of anasarca; and venous congestion of the brain, with comatose and apoplectic symptoms.

Thirdly; the circulation through the lungs of a portion of already arterialized, in a state of mixture with the impure venous, blood, and in vessels not intended for its reception, acts, in all probability, as an abnormal stimulus or irritant to the pulmonary organs. We consequently have dyspnoea, cough, and secretion, from the air cells and bronchial tubes, of a more or less viscid mucus, often tinged, or even mixed, with blood; and the lungs, after death, are frequently more or less congested, and may even be the seat of apoplectic effusions.

Mr. Thurnam says a few words on the rationale of the physical signs of varicose aneurysm of the aorta. What he does say appears to us exceedingly judicious.

"As a consequence of the superior force of the left ventricle, the arterial blood is doubtless propelled through the varicose orifice, and so produces the murmur. During the systole of the heart, the current through the orifice is the strongest, and the sound consequently is then the loudest. During the diastole, in consequence of the elastic reaction of the arterial system on its retained blood, a less powerful current is propelled through the opening, and at that time a somewhat weaker murmur is heard. This reaction of the arteries, however is in operation, not only during the diastole, but also during the interval, and, in fact, until it is overcome by the succeeding ventricular systole: consequently, though the current is stronger at the commencement of this reaction, and synchronously with the diastole, yet it is also continued during the interval. Hence the murmur is a continuous one; it being present, though much weaker, during the interval between the diastole and the succeeding systole. The same circumstances which produce the murmur, of course occasion the purring tremor. I think there can be no doubt that the extremely loud and distinct character of the murmur and tremor, are due to the generally small varicose apertures, through which the blood is propelled into the vein or the right cavity of the heart; and that their intensity will be found to be in a direct ratio to the smallness of the aperture, and to the proximity of this to the walls of the chest. Like all other organic murmurs, the sound will be heard the loudest over the orifice in which it occurs: and, like them, will be propagated in the direction of the circulation beyond. Consequently, when the aneurysm opens into the vena cava superior, or the right auricle, it is on the right border of the upper half of the sternum, that the sound will be chiefly heard, and the tremor felt; but when the communication is with the summit of the right ventricle or pulmonary artery, it is on the left border of the upper third or half of the sternum, that the sound and tremor will be the loudest and most distinct." 373.

Diagnosis.—Mr. Thurnam thus enumerates the diagnostic signs:—

General signs.—1. Severe and rapidly advancing anasarca, of such portions of the body as are below, or the venous system of which is distal to, the varicose orifice. When the varicose aneurysm is between the descending aorta and inferior cava, the legs, scrotum, and lower half of the body; when between the ascending aorta and the superior cava, the arms, face, and upper half of the body; and when between the ascending aorta and one of the right or left cavities of the heart, or the pulmonary artery, the whole of the body is the seat of dropsical effusion.

2. Livor of the face particularly, but likewise, in a less degree, of all such portions of the body as are below the varicose orifice.

3. A distended, and even varicose condition of the subcutaneous and other veins, distal to the orifice.

4. Dyspnoea; often amounting to orthopnoea and terminating in apnoea.

5. Cough, with expectoration; especially if the sputa be bloody.

6. A remarkably jerking, and in some cases, very feeble pulse.

7. Emaciation, debility, loss of muscular power, deficient animal heat and sensorial disturbance, may be looked upon as somewhat less frequent and certain signs.

Physical signs.—8. A superficial, harsh, and peculiarly intense sawing or blowing sound, accompanied by an equally marked purring tremor, heard over the varicose orifice, and in the current of the circulation beyond it; this sound is continuous, but is loudest during the systole, less loud during the diastole, and still less so during the interval. The characters of the sound, as regards intensity and continuousness, will probably altogether distinguish it from any that is heard in ordinary cases of aneurysm, or valvular disease of the heart. In the case of a varicose communication between the aorta and superior cava or right auricle, when there is no displacement of the heart, the sound will be heard and the tremor felt, along the right border of the sternum; and will, generally, be the loudest about the second right intercostal space. When, however, the aneurysm opens into the pulmonary artery or summit of the right ventricle, the corresponding points on the left side will be the seat of the murmur; though this may, probably, sometimes be heard more distinctly nearer to, though still to the left of, the centre of the sternum.

When the history shows that the foregoing signs have been developed soon after some unusual effort, especially if that be attended by pain in the præcordial region and a disposition to syncope, the evidence of a varicose aneurysm of the ascending aorta is rendered nearly indisputable.

Prognosis.—This may easily be stated—death. The duration of the disease, dated from the formation of the varicose opening, appears only to be indicated with precision in four of the cases. In four of them, the cases had a general aspect, very much resembling that of rupture of the heart; and the patients survived, in one case only four minutes, and in the other, three, from nine to twelve hours each. In one of the other cases the patient lived a month; and in the other, eleven weeks and two days. The probable duration of the disease in the five remaining cases, was in one, about two months; in two, about four; in one, five; and in another, ten months.

Treatment.—Not much need be said on this. It must be palliative, and can consist only in local bleeding for the relief of congestions, diuretics, and slight diffusible stimuli.

Analogy with the ordinary Forms of Varicose Aneurysm, &c.

"According to M. Breschet, the latest and most accurate writer, at length, on this subject, the rational signs of varicose aneurysm of the extremities, consist of numbness, loss of power, diminished heat, a blueish or slightly violet tinge of the skin, and a small and feeble pulse (which Scarpa states to be likewise vibrating), in that portion of the limb which is beneath the aneurysmal tumour. Now the only signs of spontaneous varicose aneurysm of the aorta, that we should at all look for in cases seated in the extremities, and which are not mentioned, are the distended and varicose state of the veins, the œdema, and the symptoms referrible to the respiration. But when we recollect the free inosculation which exist between all the principal veins of the extremities, and the absence of such in the vena cava, right cavities of the heart and pulmonary artery, it is easy to perceive why œdema, and a distended or varicose state of the veins below the opening, should be absent in varicose aneurysms of the extremities; and why they should be present in the same lesion, when situate in the ascending or descending aorta. Again, the comparatively very small quantity of arterial blood which, in the former cases, circulates through the lungs, and the greater distance from these organs at which it enters the venous system, afford a sufficient explanation of the absence of dyspnœa, cough, and the other symptoms of pulmonary disturbance.

With respect to the physical signs of varicose aneurysm of the extremities, it may be observed that by all authors who have treated of them, from Dr. William Hunter downwards, they are stated to consist of pulsation and purring tremor, in the situation of the tumour, accompanied by a decided, and, in most cases, *very loud* murmur, which is said, by some, to be propagated up the vein. The murmur, which has been variously described as a humming, whizzing, hissing, or roaring sound, is in some cases not merely audible when the ear is applied over the tumour, either with or without the stethoscope; but is also, as in that of Mr. Syme, and in the fifth reported by M. Breschet, audible to the patient himself, and even to those at some distance around him. In many of the cases also the sound is described as being alternately louder and more feeble, synchronously with the motions of the heart, so that a *continuous* sound would appear to have been present." 379.

On Aneurysms of the ascending Aorta, ruptured into the left cavities of the Heart.

It has been seen from anatomical examination and experiment, that aneurysmal sacs, when situated in certain of the sinuses of Valsalva, or in certain portions of the ascending aorta, would be likely to form communications, not with the right, but with the left cavities of the heart. In such cases, the lesion cannot, of course, be denominated a varicose aneurysm, though both the general and the physical signs would, probably, have much analogy to those belonging to such cases. Mr. T. relates two cases—the first, one of aneurysm of the posterior aortic sinus, communicating with the left auricle—the second, one of aneurysm of the left aortic sinus, projecting and threatening to become ruptured, into the left ventricle.

Mr. Thurnam concludes his highly interesting and valuable paper by a note:—

"Whilst this paper was passing through the press, two additional cases of

spontaneous varicose aneurysm were published. The one was seated in the ascending aorta and pulmonary artery, and the other in the common iliac artery and vein: they were communicated, the former by Mr. Smith, the latter by Mr. Adams, to the Pathological Society of Dublin, in April last." 384.

So that, from the publication of eight cases, in as many months, this lesion must be looked on as more than a pathological curiosity.

VII. CASE OF A RARE SPECIES OF HYDATID (THE ECHINOCOCCUS HOMINIS,) FOUND IN THE HUMAN LIVER. By T. B. CURLING, Esq.

A muscular man, aged 71, died March 18, 1841, in the London Hospital. There were disease in the left sterno-clavicular joint, congestion of the lungs, granular kidneys, and stricture of the urethra.

"On opening the abdomen, my attention was attracted by a cyst connected with the margin of the left lobe of the liver. It caused a tumour projecting from the gland, which was slightly adherent to the peritoneum, covering the pylorus and commencement of the duodenum. This cyst was of an oval figure, and measured about $2\frac{1}{2}$ inches in its long diameter and $1\frac{1}{2}$ inches in the other. A section displayed an old hydatid cyst varying in thickness in different parts, and fibro-cartilaginous in structure, lined by a soft loose albuminous membrane enclosing a large number of separate hydatid cysts of various sizes from that of a pea to that of a large cherry, surrounded by and floating in a transparent fluid. These cysts which are exactly similar in structure to the *acephalocyst*, being white, opaque, and divisible into layers, were also found to contain a perfectly limpid fluid which remained unaltered in appearance after one of the hydatids had been immersed for several minutes in boiling water. On opening a cyst there escaped a large number of small white particles, some of which were found floating in the fluid within; whilst others were in contact with the inner surface of the membrane composing it. The latter appeared like grains of white sand thickly studded over the interior of the cyst. On examination in the microscope, these little bodies were ascertained to be the vermiculi of the *Echinococcus*, all the characters of which were very distinctly perceived. They presented various appearances, according to the position of the animal submitted to examination. In some, of which we had a lateral view, we could see the prominent head surrounded by a circle of hooklets, two of the four obtuse processes or suckers and the round caudal cyst behind. The average length of these as measured by a micrometer was one-eightieth of an inch. In others again of which we had apparently an anterior view, the entire circle of hooklets were clearly discerned; in these the obtuse processes were invisible. Some of the animals represented in the plate seem to be in a less advanced state of development. A number of them of various forms were collected within thin pellucid vesicles or cysts, which being ruptured allowed of the escape of the animalcules, and a multitude of minute rounded particles immiscible in the surrounding fluid. During the examination I observed in the field of the microscope several detached spines which were sharp-pointed and slightly incurved. Nothing was observed capable of throwing light on the mode in which these animalcules are developed. The containing hydatid is not propagated like the *acephalocyst* of man, in which the gemmule is detached from the interior of the cyst, but the young cyst is excluded from the external surface. In some of the larger specimens two or three young cysts of the size of currants were observed in progress of development between the layers of the parent cyst.

I have not been able to meet with any account of a case in which this rare and curious hydatid has been noticed in this country. In the Hunterian Collection, there is a preparation, of the *Echinococcus Hominis* described in the printed catalogue as 'Hydatids, on the inside of which are small ones; human: two preparations;' but on inquiry of Professor Owen I find that there is no further account of it. The *Echinococcus Hominis* has been observed in only a very few instances on the continent, and neither Rudolphi nor Bremser had met with it. A well-authenticated example of its occurrence in the human brain is published by Rendtorf in a Thesis on Hydatids. The account given of the animalcules discovered in that case is very imperfect and in the plate in which they are represented, but by no means well, only the coronet of hooklets is figured; the obtuse processes or suctorious mouths are not apparent. Müller has more recently described the case of a young man treated by Professor Mecker for renal disease who voided with his urine a large number of these peculiar hydatid cysts. His description of the animalcules within them is minute, and accords very closely with the account which I have given of them, as observed in this case. He remarks however that the vermiculi were not present in all the hydatid cysts, but that the cysts which contained them were exactly similar to those which were devoid of them. In the case which I have here related the animalcules were detected in all the cysts examined in the microscope." 389.

Mr. Curling has found in the Medical Gazette (vol. xiii. p. 207,) a brief notice of a case of abscess in the liver, discharging echinococci through an opening in the parietes of the abdomen, by Mr. Rose of Swaffham, Norfolk.

VIII. OBSERVATIONS ON THE MODE OF UNION OF FRACTURES OF FLAT BONES.

By R. H. MEADE, Esq. Lecturer on Materia Medica at the Middlesex Hospital.

Mr. Meade observes, that the experiments to determine the mode of union of fractures have been made on the cylindrical bones. It has been stated that, in fractures of the bones of the skull, and also of the other flat, and of the spongy bones, union is effected without the formation of any external or provisional callus; but he can shew that this statement is not generally correct.

He has made several experiments on the scapula, which is easily fractured, and is essentially a flat bone; the two tables of which it is composed being in contact in a great part of their extent: it contains however a considerable quantity of spongy tissue in the neck. The mode of union has been carefully observed in fractures traversing both these parts of the bone.

He relates the particulars of nine experiments, which we need not detail. From these he concludes it may be deduced, that union is accomplished in the thick part of this bone, exactly in a similar manner as it is in the cylindrical bones; viz. blood is first effused into the different tissues surrounding the fractured part; this blood is next absorbed, and coagulated lymph deposited in the substance of the muscles, and in the neighbouring cellular tissue, so as to form them into a solid gelatinous mass. The periosteum which has been ruptured, is separated from the fractured edges, and becomes inflamed and thickened; lymph, which is usually of a redder colour than that which forms the external callus, is also effused between the fragments

themselves. At a later period, the external mass decreases in size, the muscles return to their natural texture, and a firm layer of cartilaginous matter surrounds the fractured spot, with which the periosteum is blended. This callus adheres firmly to the surfaces of the bone and dips down between the fragments, the edges of which become rounded off by the absorbents. Ossification then takes place by the deposition of earthy particles in the cartilaginous matter.

The process by which union is effected in fractures of the flat part of the scapula differs in some respects from the preceding, and also varies in different cases, in consequence of some varieties in the mode in which the fracture has taken place. In those cases in which the bone has been completely broken through, with the periosteum covering it, as in experiments six and seven, very little injury seems to be occasioned to the surrounding soft parts; in consequence of the bone breaking very readily, from its thinness, and the fragments suffering but little displacement, and therefore giving rise to very little inflammation or deposition of lymph in the muscles and cellular tissue, except in the immediate proximity of the broken edges. A considerable quantity of callus, however, is deposited along the line of fracture, with which the periosteum is blended, as in the fractures of other bones, and this callus seems to become bony before any solid union is effected between the edges of the bone itself.

After some remarks of rather a conjectural character upon the periosteum, Mr. Meade goes on to observe—

“I have stated that the process of union of fractures of the flat part of the scapula varies in certain cases. I will now endeavour to point out these particular instances. In many experiments which I have performed, I have found that union is accomplished without the formation of any provisional callus. In the greater number of these cases the periosteum had remained entire, as in the fourth experiment which I have related; and I am inclined to suppose, that this circumstance will partly account for the absence of callus. In the first place, the fractured edges being prevented by the entire state of the membrane from irritating the muscles and surrounding textures, the inflammation which gives rise to the effusion of lymph and consolidation of these textures, so as to form the external capsule, is not produced: and the preliminary steps in the formation of the provisional callus are wanting. In the second place, however, why is it that little or no exudation takes place from the surface of the bone beneath the periosteum, so as to form a ridge under this membrane? The only explanation which I can find for this is, that the periosteum is very little separated from the surface of the bone in these cases, and lymph seems only to be effused where the connexion between these parts is destroyed. I find it mentioned by writers, that cylindrical bones are sometimes broken without the periosteum giving way. Mr. Gulliver refers to a specimen preserved in the museum of the King's College, London, where both bones of the fore-arm of a child were fractured, without the periosteum being injured. He does not say, however, whether any callus was here formed. I can scarcely conceive it possible that the cylindrical bone of an adult can be broken without the periosteum giving way at the same time, at any rate, on one side. In a few cases, which I have noticed, where no provisional callus had been formed, the periosteum had apparently given way, and here the only reason that can be assigned for the absence of callus is, that the broken fragments had remained accurately in contact, and the direction of the fracture had been such, that complete immobility had been preserved; under which circumstances it has been premised, that

union might take place, simply by the deposition of ossific matter between the extremities of the fragments. It has been said, that where union is accomplished without the formation of provisional callus, the process is very slow; but in the eighth experiment which I have related, the upper edges of the fracture which had remained in contact, and which were covered by periosteum, were united by new matter effused between the fractured margins, as early as the thirteenth day; which new matter was of a cartilaginous consistence, and insensibly blended with the broken edges, and would doubtless soon have become osseous." 403.

Mr. Meade concludes with a notice of one or two other facts.

"It has been stated by Macdonald, and repeated by other authors, that the cartilaginous matter forming callus, differs from true cartilage by becoming tinged red, when the animal has been fed on madder. I have distinctly observed that this is incorrect in many cases; the bones of the body generally having been found coloured, as well as the new bony particles deposited in the callus: while the cartilaginous matter surrounding these fragments has been perfectly white. I have been, by this means, enabled to observe, that the new bony particles are deposited irregularly through the provisional callus, and do not first arise from the surface of the old bone.

The lymph effused from the edges of the fractured bones themselves, and which fills up the interval between them, differs from that forming the provisional callus, in having a peculiar red granulated appearance. Mr. Howship, and latterly Mr. B. Cooper, consider that the coagulated blood plugging up the ends of the bones, actually becomes organized; but I could not find any other point of resemblance between this new effused matter and coagulated blood, besides the reddish colour." 404.

So that the process of union in fractures of the scapula differs little from that of the common cylindrical bones.

IX. CASE OF ANEURYSM OF THE ARTERIA INNOMINATA, IN WHICH THE CAROTID AND SUBCLAVIAN ARTERIES WERE TIED. By W. WICKHAM, Esq., Surgeon to the Winchester Hospital.

Richard Colt, aged 55, admitted into the Winchester County Hospital Sept. 17, 1839. He had been a sailor, and resided nine years in a tropical climate. Six months ago he had observed a small swelling, about the size of a hazel nut, situated just above the right clavicle, at about its middle; it was unaccompanied by any pulsation or pain, and it disappeared in about eight days; from which time, until about four weeks previous to the date of his entry at the hospital, he had no return of swelling, when suddenly his attention was attracted to another tumor about the same size, which presented itself just above the sternal end of the clavicle: this soon became painful, and the pain was much increased when he was in the recumbent posture. The pulsation too was now soon evident, and as the swelling enlarged it occasioned some difficulty in breathing; at the end of the four weeks he showed the swelling to Mr. Adams, a surgeon at Lymington, who considered it aneurysm, and advised his coming to the hospital.

On his admission, the swelling had attained to the size of a hen's egg externally; it seemed that the tumor extended over the carotid artery at its lower part, reaching as high as the transit of the omo-hyoideus muscle: it

inclined somewhat also towards the subclavian artery: it had all the characteristics of aneurysm, and that of the innominate. The health of the man appeared tolerably good, with the exception of some degree of constitutional disturbance, arising from continued pain and difficulty of respiration.

On the 24th of September, the case was submitted to Sir Astley Cooper, who was on that day at Winchester. His opinion confirmed that already entertained, that the disease was innominate, and his sanction was given to the experiment of tying the carotid and subclavian arteries.

Sept. 25th.—A ligature was placed on the carotid artery immediately above the omo-hyoideus muscle, which was somewhat pushed upwards by the tumor. The operation was completed without any difficulty or any unusual circumstance attending it. The arrest of the circulation through the vessel was complete. The immediate effect of the operation in no degree diminished or disturbed the functions of the brain. The aneurysmal sac evidently lessened as soon as the ligature was tied, but the pulsation continued, though certainly with less force. The trachea was almost immediately relieved from pressure by the reduction of the tumor, and thereby the troublesome cough and dyspnoea considerably lessened. The patient throughout the day well, and feeling much benefited by the cessation of those distressing sensations which the pressure of the aneurysm had previously occasioned.

No unfavourable symptoms followed the operation. The ligature came away on the 14th day, after which time the patient was allowed to walk about, and at the end of three weeks he left the hospital contrary to advice, but under the pretext of having affairs to settle at home, and with the promise of returning at the end of a week or ten days. At this time the tumor appeared of the size to which it was reduced immediately after the operation, and the pulsation as before the carotid was tied.

The patient was now surrendered to the care of Mr. Adams, who watched the case, and urged the performance of the second operation. This, however, the patient refused until the 27th November, two months after the first. At this time his appearance was very wretched, the difficulty of breathing extreme, cough very frequent, and deglutition much impeded. The tumor had increased to more than double its original size, and especially it had extended outwardly so as to overhang nearly half the clavicle.

A consultation was held on the 2nd December, and, on the 3d, the operation was performed.

The patient had passed a night of great suffering, and more than ever from the difficulty of breathing, which continued to the time of the operation. When brought into the operating theatre, he was quite livid from the arrest of the circulation through the lungs, and his pulse excessively weak. He appeared to be almost at his last gasp from suffocation; and great fears were entertained lest he should expire under the operation. It was however agreed, that this was the only chance of relief, and inasmuch as the tumor had so decidedly lessened after the former operation, it was hoped that a similar effect might be produced by tying the subclavian. The operation was therefore undertaken without further delay in the following manner:—

The patient was laid on a table with his head and shoulders raised towards the light, so that it might fall from the skylight into the hollow of the incision. The skin being drawn down, an incision was made through the integuments upon the clavicle; it commenced near the acromion, and extended

along the clavicle to the tumour, which now occupied about one third of the clavicular region: the incision terminated by being carried a little upwards by the side of the external jugular vein, which was distinctly visible, and distended in consequence of the difficult respiration. It divided the skin and platysma myoides; the cervical fascia, now becoming exposed, by careful touches of the scalpel, and the aid of a director, was easily divided. The loose cellular tissue having been next cleared away, the situation of the artery was readily detected in its passage over the first rib; but it lay so far beneath the tumour and clavicle, that some difficulty was experienced in this stage of the operation. At first one of the cervicle nerves, which received a pulsation from its contact with the artery, was mistaken for the subclavian, and a ligature passed under it: this mistake being at once discovered, it was not tied, but drawn away by this means from the artery, so as to bring it into view. A ligature was then passed around the vessel, by means of an aneurysmal needle, made by Weiss, having an eye at the end of a spring which slips along a canula inserted into a firm handle (this needle being admirably adapted for the purpose). The artery having been firmly tied, the pulsation at the wrist ceased, the wound was dressed, and the patient put to bed. Relief from the dyspnœa was immediate, so much so that the man was able to walk with ease to his ward, and from that time he continued free from any inconvenient pressure on the trachea until he died, the direction of the growth of the tumour having been subsequently diverted *outwards* towards the right shoulder.

On the next day, the patient was in every respect well: the tumour had manifestly decreased, but pulsation in the sac continued, though less in force, as on the former occasion. No pulse to be felt at the wrist. The heat of the arm greater than the opposite. He was treated as under the previous operation. No unusual symptom occurred until Saturday evening, Dec. 7th, when he was suddenly seized with delirium and muttering, a considerable increase of the aneurysmal tumour, and violent pulsation of the heart and *left* carotid: it was so great as to shake the whole frame, and actually raise the head from its pillow. He was immediately bled to twelve ounces and took thirty drops of laudanum. The first part of the night was passed with but little diminution of the symptoms: after which however they gradually diminished, and by the following evening he became quite tranquil. From the time of this attack the tumour never diminished; on the contrary it gradually, though slowly, increased. His health continued to improve, and with the exception of occasional pain from distention of the swelling and pressure on the nerves over which the tumour was situated, his sufferings were comparatively mild.

On the 23rd of Jan. he became suddenly faint and weak with loss of appetite, which lasted a few days; and he again recovered sufficient strength to feel anxious to quit the hospital.

On the 25th of Jan. the ligature came away in the dressings, and the wound speedily healed. He now sat up and smoked his pipe, which was his habit, and, although gaining no ground, feeling some confidence as to his ultimate recovery, he persisted in his desire to quit the hospital, which he did on the 5th of February. He returned to Lymington.

On the 15th of February Mr. Adams was called to him on account of profuse bleeding, which occurred in the evening: this was arrested by

plugging and clots, but on the following morning, Feb. 16th, he bled again, and died without an effort.

Thus a period of about four months and a fortnight passed between the first operation and the death of the patient.

Post mortem appearances on inspection.—The heart was large and loaded with fat.

The *Pulmonary artery*, nearly twice the natural size.

The *aorta* extremely dilated from its origin in the left ventricle through the whole course of thorax; specks of osseous matter appeared in its coats.

The *superior vena cava* was also greatly enlarged.

The aneurysm had emanated from the *arteria innominata*, below its division into subclavian and carotid arteries. Nearly half of the innominata was occupied by the origin of the aneurysm. A ligature upon the remaining part of the innominata would not have left space between it and the arch of the aorta for the formation of a clot, or adhesive matter,

The *sternum* was slightly absorbed at its upper part.

The *clavicle* had undergone progressive absorption from the pressure of the aneurysm upon its inner and lower surfaces, and its articulation with the sternum had been destroyed, so that the clavicle became lifted upwards.

The *right subclavian artery* was obliterated from the clavicle to the first rib.

The *right carotid artery* was obliterated behind the tumour from just above the upper edge of the omo-hyoideus.

The *aneurysmal sac* reached from the *arteria innominata* to the upper part of the thyroid cartilage.

The sac had burst upon its left side although it projected most upon the right side.

Another case is thus added to those in which the subclavian and carotid arteries have been tied unsuccessfully for aneurysm nearer the heart. Nor can the result surprise us. When we consider on the one hand the very questionable probability of success from tying vessels beyond an aneurysmal tumour in artery so near the heart as the innominata—and on the other hand, the likelihood that the aorta, if not the heart itself, is in an unsound state, we shall be prepared for failure, astonished at good fortune. Indeed it must form a subject of deliberation whether operations of this nature can be recommended. Every unsuccessful one materially impairs the arguments for its repetition.

In the case before us Mr. Wickham appears to have exhibited the skill and boldness for which he is deservedly celebrated.

X. CASE OF TUMOUR IN THE PELVIS, IMPEDING PARTURITION. By J. C. W. LEVER, Esq., Assistant-Accoucher to Guy's Hospital Lying-in Charity.

On January 19th, 1840, at 7 A. M. Mr. N. was called to Mrs. Colston, aged 28, in labour with her fifth child. Her previous labours had been remarkable quick, indeed so rapid, that upon one or two occasions, the child was born before the arrival of the surgeon. When Mr. N. saw her, he found that labour-pains had commenced twelve hours previously, and on examination, he detected a tumour projecting into the vagina, impressing him with

the idea that the rectum was full of fæces. The os uteri was felt above the tumour nearly dilated, and the head of the child presenting, her pains occurred at regular intervals, and were tolerably strong; he ordered her to take a dose of castor oil immediately. At 1, P. M., the oil had operated well, and on making examination, the tumour was found to be pushed lower down; an enema was now administered, which acted very speedily: introducing his finger into the rectum, Mr. N. found the tumor was situated between the rectum and vagina, and on further examination, it was felt to contain fluid, and to the left side, there seemed to be a firm body, impressing the examiner with the idea that it resembled in feel, the upper extremity of a fœtus.

"The pains," continues Mr. Lever, "were now very strong, and the patient had but slight intervals of ease. Mr. N. having requested my opinion of the case, I attended, and found the tumour as large as a fœtal head, occupying so much of the pelvic cavity, that the finger could with difficulty be passed between the tumour and the symphysis pubis, and on examining her rectum, the coccyx could not be passed; her pains were very violent and frequent. I advised the evacuation of the fluid contents of the tumour, thinking that if this were done, sufficient room would be obtained for the birth of the child, without diminishing the head. Having guarded a common lancet, I made an opening into the tumour, through the vagina, when upwards of a pint of an oily fluid immediately escaped, the sides of the tumour collapsed, the pains continued, the head rapidly advanced, and in two hours from the time of operation, she was delivered of a living male child, which was soon followed by the secundines. On placing the hand on the abdomen, after delivery, the uterus was found perfectly contracted, while to the left side the firm tumour which formed part of the contents of the sac could be felt. The evacuated fluid, when cold, greatly resembled dripping." 416.

On the 20th May, after her confinement, she complained of forcing pains, and Mr. N. again found the tumour between the vagina and the rectum, and extremely tense.

According to Dr. G. O. Rees' analysis, the substance contained much cholesterine. In a note, Dr. Merriman approves of the puncture of the tumour through the vagina. In two cases it had been opened through the rectum with a less successful result, and Dr. M. also approves of the lancet, rather than the trocar.

If we are not misinformed, this case was related to the London Medical Society by Mr. Newth (the "Mr N." of Mr. Lever's report) and published in the *Lancet* at the time. We cannot help thinking that a more explicit reference to Mr. Newth would have been well.

DU TRAITEMENT MORAL DE LA FOLLE. Par M. Leuret.
Svo. pp. 462. 1840.

THE scope of the present work, from the pen of one of the physicians of the Bicêtre Hospice at Paris, is to endeavour to correct many of what he deems to be prevailing errors in the management of certain forms of mental alienation. Its sum and substance are comprised in the following three propo-

sitions, which are laid down in one of the opening pages, and which are subsequently illustrated at great length by reference to the recorded opinions of other authors, and to the extensive experience of M. Leuret himself.

1. If it be true that insanity always depends upon, or is connected with, some lesion of the encephalon, it must surely be admitted that as yet we are completely ignorant either of the nature, or of the exact seat, of the lesion.

2. The moral treatment of insanity, as recommended and practised by the best writers on the subject, has been viewed by them only as an auxiliary or adjunct to the more important remedial means, the physical treatment.

3. In my opinion, on the contrary, insanity, when it is not associated with corporeal disease or suffering, is most efficaciously relieved, or even cured, by appropriate moral treatment; whereas physical means, under such circumstances, are of little or no avail.

M. Leuret proceeds to adduce numerous arguments and illustrations in proof of these three positions; premising, however, this important caution to his readers, that these positions are meant to apply only to insanity, or disturbance of the intellectual and moral faculties, when it is uncomplicated, or, in other words, unattended with symptoms of corporeal disease. "For," says he, "if there be present at the same time paralysis, apathy, agitation, loquacity, fever, &c., we have reason to infer that there is a physical lesion somewhere, and we must therefore have recourse to physical means to relieve it; but in simple derangements of the reason or passions, on the contrary, in cases where the insanity exists alone and without complication, it is moral treatment that is most required."

Let our readers therefore bear in mind this preliminary remark, while we submit to their attention the prominent contents of our author's work.

To prove his *first position*—that, if insanity depends upon any organic lesion of the encephalon, we are as yet completely ignorant as to wherein this lesion consists—he takes a review of the numerous morbid changes which have been described by various writers on the subject, and shews how utterly discordant are their opinions and assertions upon the subject in question.

For example, he shews from the writings of *Greding*, *Haslam*, and *Bertolini*, that there is no uniform change in the thickness of the cranial bones as has been alleged by some authors;—from those of the writers now named, as well as of *Bayle* and *Calmeil*, compared with the published researches of MM. *Louis* and *Chomel*, that, although lesions of the meninges of the brain are frequently found on the dissection of insane patients, these very lesions are not only seldom met with in *uncomplicated* and *monomaniacal* insanity, but are also frequently discovered in the bodies of persons who have never, at any period of life, exhibited any traces of mental derangement;—that sanguineous injection or hyperæmia of the cerebral substance cannot be regarded as a characteristic morbid lesion accompanying insanity; since, on the one hand, it is not uniformly present, and, on the other hand, it is very frequently observed after various chronic diseases of the body*—that hypertrophy and atrophy of the brain are only occasional,

* M. Leuret is far from denying that hyperæmia of the brain exerts a real

the former more rarely than the latter, necroscopic phenomena—that œdema of the brain is a still more unfrequent phenomenon—that there is the greatest discordancy among authors as to the frequency of any increase or of decrease of density in the substance of the brain in cases of insanity, uncomplicated with manifest corporeal disease*—and, indeed, that the same assertion holds good of every other morbid alteration which has been described by authors.

He next alludes to the important fact that every writer on the subject, without exception, admits that in some cases of insanity no traces whatever of any alteration in the brain or its appendages are discoverable on the minutest examination.

Thus M. Calmeil, after mentioning that, in eight out of seventy-five cases of insanity, the encephalon was found on dissection to be altogether healthy, adds these words: “the anomalies of structure observed in the bodies of the insane are not in themselves sufficient to account for the state of alienation, because we sometimes meet with the same appearances in those who have never shewn any symptom of it.”

M. Esquirol, too, most distinctly admits that dissection has quite failed in making known to him what is the physical cause of insanity; and M. Lelut, who of late years has prosecuted his pathological researches with the greatest assiduity, expresses the same opinion. M. Heinroth, the German translator of *Esquirol's* works, even maintains that the brain is a stranger to the production of insanity!

But M. Heinroth is one of those spiritualist gentlemen who subtilise many ordinary physical phenomena, until we can scarcely recognise their existence: his opinion, therefore, is not likely to have much weight with the English reader.

M. Leuret makes a few remarks on the attempts made by Gall, and other phrenologists, to localise the different forms of insanity in different parts of the encephalon; but, in spite of the arguments and reasonings of MM. Ferrus and Parchappe among his own countrymen, and of Drs. Ellis and Elliotson in this country, he regards them as quite unsatisfactory, either for sound theory or judicious practice.

He sums up his remarks on the pathology of insanity with the following observations:—1, that physicians have, without any spirit of discrimination, accumulated or huddled together all the morbid changes which they have found, or believed to have found, in the brains of persons who have died insane; 2, that they have been in the habit of much too hastily attributing the disturbance of the intellectual and moral faculties to these real or sup-

influence in producing many of the pathological phenomena which are observed in insane patients. All that he contends for is, that it is not to this morbid condition that the mental or *psychical* symptoms can be justly attributable; and, consequently, that is by no means a uniform necroscopic appearance in cases of simple uncomplicated insanity when the physical or corporeal health remains unaffected.

* Thus M. Ferrus has asserted that, in melancholy with a tendency to commit suicide, the brain is generally *excessively soft* and exsanguine, while M. Cazauvielh, in his recent work *Du Suicide*, &c. 1839, states, that in seventeen dissections of suicides the substance of the brain was unusually firm.

posed changes of structure; 3, that they have too much neglected to take account of the changes which are compatible with the integrity of the mental faculties; and 4, that, as regards the changes said to be peculiar to the insane, the distinctions between the symptoms which are of a physical and those of a psychical or mental nature, during the life of the patient, has not been duly attended to.

"I do not wish it to be concluded," says he, "from these observations, that in my opinion, the brain does not experience any alteration in the insane, even in cases where the mental alienation appears to be free from any other morbid complication. I admit, in the production of insanity, the influence of certain physical causes: and I also admit that organic lesions of the brain are more frequent in the insane than in any other sort of patients. But then as to the nature of the alteration, which is the immediate cause of insanity, I assert that hitherto no one has been able to point it out. If it really exist, it must be similar to that which gives rise to dreams, which suggests the false convictions in persons of otherwise sound minds, and which excites the instincts and passions. On no occasion does it reveal itself by physical characters, and its nature is completely unknown."

The *second* chapter of the work is occupied with a summary review of the published opinions of the leading French writers on insanity during the last forty years on the important question, how far moral treatment avails to the mitigation or removal of the mental disorder. M. *Leuret* shews that by all, without exception, it has been regarded only as an auxiliary, or aid to the more important means of physical or corporeal medication.* In his opinion, the rule should be reversed; the moral should take the precedence of the physical treatment, in all cases where the insanity is not associated with obvious disturbance of the bodily health.

* Our author alludes to several recently published English works, which, like those of his own countrymen, are all, he says, too much occupied with instructions as to the mere physical treatment of the insane. He illustrates this by commenting on an instance of theomania, recorded by Sir Alex. Morrison, in his *Cases of Mental Disease* 1828. "The patient, whose health was good, thought that he was frequently conversing with spirits; to prevent him seeing them, he was directed to take pills of calomel and jalap. He then thought that he was God; the pills, and baths also, which had been administered, were discontinued. He became violent; forthwith he was shut up in his cell and cupped. He broke the windows; a dose of ipecacuan was given him. No change in his condition; camphor and hyosciamus were ordered. Such is a specimen of the unmeaning treatment pursued in a great number of lunatic establishments."

M. *Leuret*, however, acknowledges that one or two of the English writers have counselled more wisely. He alludes to Mr. *Tuke* (a description of the Retreat near York for insane persons, 1815) in the following commendatory terms: "He justly condemns an old practice at Bethlehem of bleeding and purging all the patients at regular periods; and endeavors to point out the inefficiency of physical remedies, while he strongly urges the importance of appropriate moral treatment. He wishes that the insane person be led to exercise himself a controul upon his own actions, and that his medical attendant endeavour to inspire him with various emotions, and occupy his mind with various ideas. In all this, I entirely agree with him; the only thing that I find fault with him is, that he has not distinguished, in reference to the treatment, the cases of simple uncomplicated insanity from those in which there is co-existent some lesion of the movements and of the sensibility."

This is the great aim and object of *M. Leuret's* work : and certain it is that he has worked out his problem with very considerable ingenuity and success.

In a vast number of cases of monomaniacal or partial insanity, there is unquestionably not a little share of wilful obstinacy and petulance of temper blended with the existing mental delusion ; indeed, the patient himself will not unfrequently admit the folly of his vagaries when under the influence of strong hope or fear. This admission indeed may be for the moment only, when these feelings are worked upon ; and, whenever their influence ceases, all the former extravagances will re-possess the mind. But if, as *M. Leuret* remarks, we once succeed in frequently renewing the effects of the emotions thus excited, so that the patient himself begins to associate the idea of the indulgence of a favour, or of the infliction of a penalty, with certain phantasies of his mind, we shall find, in not a few instances, that these phantasies will soon have a fainter and fainter hold upon the attention, and will ultimately entirely vanish. It is by working on the hopes and fears of the patient—provided always the bodily health be perfectly good at the time—and by blending kindness with an authoritative firmness in all its demeanour, that the physician may best hope to acquire that influence over his patient's mind, which so often conduces to the restoration of its perfect sanity. Our author very justly remarks, that there are many points of analogy between the character of a monomaniac and of a froward and spoiled child. No one would think of physicing the latter for petulance of temper ; and it is no less absurd to endeavor to dispel the illusions of the former with purges and mercurials.

The means, to which *M. Leuret* chiefly trusts for acting on the fears of the insane, is the use of the cold douche bath. The force and size of the stream of water, the height from which it comes, the length of time it is to be continued, &c. must be varied according to circumstances. Most patients complain most bitterly of its use, and will make almost any concessions to escape its repetition ; but some remain quite indifferent about it. The aim of the physician should be so to manage its administration that the patient, while under the douche, will make an earnest promise to perform something that is required, or abstain from something that is forbidden.

"When I have once gained a concession," says *M. Leure*, "I am not satisfied ; I require new ones each day ; the more that are granted, the more I require ; and, if I see the hopes of a cure, I stop in my demands, only when this has been effected."

It is quite unnecessary to allude to the reproaches which have been thrown upon our author by many of his conferees for his alleged want of proper feeling towards his patients, and his endeavors to work so much upon their fears. If his cruelty does not go beyond given them cold douche baths against their will, and to their very obvious annoyance, the most sentimental moralist will doubtless excuse him.

While insisting much upon the value of this mode of overawing many insane patients, *M. Leuret* is far from trusting to it alone in the management of various forms of mental alienation. He recommends that every means should be employed to divert and amuse their minds, and to withdraw their thoughts from their delusions by keeping both their mental and their bodily powers engaged. The value of out-door exercise, of walking, riding, or driving, or working in the garden, of engaging in various sports, and also

of in-door amusements, such as music, billiards, the acting of plays, &c. is much dwelt upon. It is unnecessary to say more; as every one is now aware of the hurtful effects of long seclusion and silence even to people of sound minds:—what then must be their influence on the insane? M. *Leuret* recommends that the invalids should dine together. It is always well to keep up the rules strict of etiquette during every repast:—the attention is thus to a certain degree maintained, and, by the performance of the little courtesies to each other, the patients are accustomed to exercise a certain degree of controul over their own feelings. In large establishments, it is often useful, as well as very convenient, to divide the patients into several *messes*—giving to one the superintendence and preparation of the food for his division, after the manner practised on ship-board.

Having thus briefly stated the leading contents of M. *Leuret's* work, we shall extract a few of the cases, abridged, which he records in illustration of the sort of moral treatment recommended and adopted by him in public and in private practice.

CASE.—Imprisonment for a political offence—production of the thought, accompanied with an hallucination of hearing(?) ; refusal to speak or to take food—cure by moral treatment.

A man, 30 years of age, was admitted into the Bicetre in May 1838. When M. *Leuret* visited the hospital on the following morning, he found his patient pale, lying on his back, and most doggedly taciturn; he would not answer a single question, and he had refused to taste either food or drink, not only since his admission, but for upwards of a week before. His pulse was natural, and nothing indicated any corporeal disorder.

As hitherto he had refused to answer any of the attendants, M. *Leuret* did not address any question to him; but, seeming to be quite indifferent whether he spoke or not, said in an authoritative tone—"This man must be made to drink;" and, immediately closing the patient's nostrils with one hand, he forced into his mouth a cupful of gruel with the other. In spite of some resistance, the gruel went down; and M. *Leuret* enquired of the attendants if the *douche* was ready, as it must be used at once, if he spat out any thing that was given him. Already M. *Leuret* had acquired some influence over him, although he had not addressed a word to him.

In the course of the day, he passed urine in bed; but, without reproaching him for this, he was merely ordered to swallow a cupful of broth;—he was made to do so by using the same means as before. At the same time he was ordered to rise from bed; as he did not move, the attendants at once drew him out, and put on his clothes: when dressed, he consented to stand up. He was led out into the garden, where a number of the patients, ranged in a chain, were engaged in passing stones, the one to the other. Poor *Urbain*, weak as he was, was placed in the middle of the chain, and when his neighbor held out a stone to him to be passed to the next on the other hand, he looked at it, smiled, and after a moment of hesitation, took it and passed it along. This was repeated several times, and before long he engaged in the work as cleverly as any of the others. While this was going on, a tureenful of soup was brought, and a spoon was given to each man. *Urbain* was invited by one of his neighbours to come and eat; he allowed himself to be led to the table, took a spoon, and began to eat as

well as the rest. In the evening he refused to eat, and, instead of drinking what was offered to him, he took hold of the spitoon and swallowed all its contents.

Next day, he seemed somewhat better; but, strange to say, he was ordered by the visiting physician in attendance on this day to be cupped on the neck, have an aperient enema, and a tepid bath! and many kind exhortations were addressed to him. M. *Leuret* again took charge of him in a few days, and, instead of doctoring him with physic, bade him get out of bed, and carry some pitchers of water for the use of the ward: when he had done this work, a couple of boiled eggs and some bread were put into his pocket, and a cupful of milk was put at the side of his bed. When left alone he eat the eggs, and drank the milk.

Next day, he refused either to speak, or to take his food: the douche was therefore resorted to; he bore it at first without winking; but soon began to be distressed with it, and exclaimed for the first time, *mein Gott! mein Gott!!*

Without taking any notice of what he said, he was merely asked whether he would take food; he consented and swallowed what was put before him. For the next nine days, it required compulsion to make him take food. What was curious, and shewed how much real obstinacy is present in many such cases, was that he made no resistance to the introduction of an œsophageal tube into the stomach, but that, if a spoonful of food was put into his mouth, he at once spat it out.

On the ninth day, the obstinacy of *Urbain* being overcome, he consented both to speak and to eat his food. When asked what had induced him to refuse doing so before, he made no reply—probably from being aware of having no good reason to allege.

By degrees he became more and more submissive; and, in order to prevent him brooding over his own thoughts, he was kept almost constantly occupied in some way or another.

Two months after his admission into the hospice, he was permitted to leave.

The cause of the malady in this case was purely moral, having been induced by imprisonment in Germany for some political offence, and increased by subsequent distress and privations, when he made his escape into France. Such a case is surely not to be treated by cupping, blistering, and physic-taking, as is too often tried. It is by acting on the mind with firmness, and yet with kindness, that we can hope to overcome the gloom and obstinacy of such a patient.

M. *Leuret* mentions the case of a monomaniac in the Bicetre, who, in consequence of the utter inefficiency of all the means that had been tried, had been placed in the section of the incurables, and who had formed the resolution to perish from hunger. For three entire days he did not swallow a mouthful of anything. He was ordered to have the douche. When this was over, he spoke to M. *Leuret*, and asked him why he was treated so, adding that it was better to die of want, than live miserably in a hospital. "It rests with yourself not to live in a hospital; cease to act unreasonably; if you give over your sullenness, and begin to work and eat, you shall have your freedom."

"My freedom! when will you give me it?"

"In a month, if you choose."—"In a month? then I will eat."

From this time his obstinacy ceased; and at the end of the month, the promise, which had been given in the bath-house, was faithfully fulfilled.

M. *Leuret* alludes to another case, that of a young lady who had formed a similar resolution to kill herself by fasting. Food however was introduced into the stomach by means of the œsophageal tube: but, if any was put into her mouth, she at once rejected it. No decided progress was made in overcoming her insane intention, until a little *ruse* was practised. Her family were requested to go to M. *Esquirol's* establishment, where she had been living, and, without making any allusion to either her past or present condition, to invite her to accompany them to Versailles. She went with them; and, after walking about in the gardens for some time, the whole party repaired to a restaurateur's; she sat down like the rest; hesitated for a moment; but, no notice being taken of her, she began to eat: from that time she never refused to take her food, all her gloomy ideas vanished, and she returned home, enjoying her perfect reason.

"Here," says M. *Leuret*, "the practice followed was quite independent of pathological anatomy; and indeed it is the only rational one in all cases of simple, uncomplicated insanity."

CASE.—Disappointed love—hallucinations of sight and hearing; ambitious ideas—temporising useless; moral treatment successful—duration of the disease, nearly four months.

A man, 31 years of age, was admitted into the Bicetre on the 17th Sept. 1839. His tale was, that for two months he had been desperately enamoured with a fair seamstress, who at first treated him scornfully, but afterwards became as loving as possible. The poor fellow's head was upset by his good luck; and, from one absurdity to another, he at length worked himself into the assurance that his "ladye love" was not one of earthly mould, but a heavenly messenger, who visited him in his dreams. However, as she would never consent to marry him, he fell into a state of the gloomiest melancholy, and committed the greatest absurdities, until at length he was brought to the Bicetre. His bodily health was quite good, and being aware where he was, he most urgently implored to be discharged, as, he said, he had to attend to his business. At length, he became reconciled, and was very calm; he eat and slept well; but he would not work, alleging at one time that a prophet never works, and at another that he was soon to be liberated, and therefore that there was no occasion to begin any work. He was amused with the tales and conduct of the other inmates, and seemed to be quite aware of their absurdities; but as for himself, "he knows what he knows; fools act extravagantly, but no one can say that of him. He has never spoken a word that is not altogether true, and, although he is not believed, yet it will be found out sooner or later that he has been in the right; he will never draw back from what he has said, nor will he consent to work like a drudge for any one."

For two months no change took place in his delusions; but, as he still refused to work, M. *Leuret* thought that it was high time that a decided attempt should be made to compel him to do so. He was therefore ordered to have the douche. From this time, he offered to work at any carpentry, but positively refused to do anything else.

"I have no carpentry work to give you; you must labour in the garden like your companions. You shall have a spade, and let me see you set about using it immediately."

The fear of another douche made him submit. While engaged in working, M. Leuret spoke to him about his sweetheart, her visits to him as an angel at night, &c.; and he now confessed that it was all an illusion, that he no longer believed in what he formerly said, and that he was determined no more to think about what he now knew to be mere folly. He kept his word, and was in consequence dismissed in about a month afterwards.

"Some may object," says M. Leuret, "to my conclusions, and assert that a promise extorted from an insane person by fear is not likely to have any influence over him, when he is left to himself. But this is really not the case, provided the fulfilment of the promise has been kept up for a considerable time, before the restraint is removed. The renunciation of the foolish ideas is at first, I admit, merely on the lips; but when the person finds that along with such a renunciation he must act consistently, the mind is gradually withdrawn from its errors, and, if kept occupied, it will often revert into the channel of sounder thought. I have known many persons, who, long after their cure, when they called to mind their hallucinations, rejected them with all their energy, from the circumstance of associating with their existence the treatment which had been followed. The conclusion from what we have now stated is, that in numerous cases we may succeed, by means of simple moral treatment, in dispelling the illusions of the insane.

CASE.—Sedentary and Inactive Life; heating diet—fear of damnation; perverted sensations—Cure effected by the use of cold baths, exercise. &c.—Duration of illness, eight months.

A young married lady, who had been the ornament of the society in the capital, retired with her husband into a sequestered part of the country, where, there being little to occupy her mind or feelings, she passed much of her time in bed and inactivity. After a nervous attack, her mind seemed to be much shaken; she was haunted with the fears of religion and believed that she was eternally lost. She was put on a mild unirritating diet and gradually recovered. Soon afterwards, however, she was seized with violent palpitations of the heart, for which leeches were applied on the precordial region. She became more and more restless, and all her former fears returned with double force. Although she had received absolution from her confessor, she did not believe that her sins had been forgiven. Some days she sat in a corner of her room and would not speak to any one, and at other times she ran about the fields screaming in the wildest manner. She was taken to Paris and boarded in a convent of the *religieuses hospitalieres*. Here every means of spiritual consultation—as private and public prayers, pious songs, visits to various chapels, counting of rosaries, kissing of holy relics, absolutions (what mummary!), &c., were lavished upon her; but without avail. She was, therefore, transferred to a *maison de santé*, where she was visited by M. Leuret. After relating her complaints she told him that no one could cure her, for that she was inevitably doomed to hell, and that all that she wished was to be left alone in a silent apartment, where others might not suffer from witnessing her agonies. Her bodily health seemed to be quite good; the catamena were regular: she was forty-two years of age, and had been six months ill. M. Leuret assured her that she

would get better, and instead of leaving her in a room by herself, gave orders that she should be placed in a part of the building where there were upwards of a dozen persons. He told her that he would change her quarters in the course of a few days, if she deemed it proper, and at the same time he impressed upon her that, if she uttered any screams during the night, it would be necessary for her health that she should be taken to the bath: "I count much," said he, "on the cold bath long continued to calm your nervous excitement." At night she began to scream and shout aloud, blaming M. *Leuret* at the same time that he had left her in a room where her cries disturbed other patients. She was, therefore, at once taken to the cold bath, in which she was kept much against her will for some time: she gradually became quiet, was taken back to bed, and then fell a sleep. Next night she was again noisy, and the cold bath was repeated with the same effects as before. On the following noon, a third bath was given in consequence of her noisy restlessness.—"But, Sir, to-night again; I have already been in the bath for four hours." "Well, madame, other four hours are necessary; it is by the violence of the disorder that the frequency and the length of the baths are determined." From this time Mad. E. understood that the only way to escape the baths was to give over screaming; and the effects were soon apparent, for in the course of a few days she had ceased entirely from making any noise. Although now much less gloomy and unhappy than she had hitherto been, the cause of her crying still continued; she said "Every morning, soon after waking, I feel a most oppressive weight on all my limbs, while this part (pointing to her feet) feels quite empty: all my distress is owing to ten devils who come to lay hold of me. My moral heart is gone; I love nothing now; for the condemned do not know what it is to love. The chain which knit my heart to heaven is broken; my prayers cannot reach God; I am lost, I am lost." "Have you ever seen or heard any thing *en dehors de* your ordinary sensations?"—"Yes, once I heard a voice which said—thou art lost." "When did you hear this voice?"—"A long time ago, at the beginning of my illness." "Whence did it come?"—"From the inside of my body." "how were you certain that it was really a voice, and not merely an idea?"—"Eh, Mon Dieu, by the noise?" "Was it a noise produced at the same time as the idea, or was it the sound of the voice?"—"A sound of the voice: I do not know how the nurse, who was with me, did not hear it." "These devils whom you hear, have you never seen them?"—"No."

Madame E. continued still gloomy and seemingly most wretched. The only plan to dispossess her mind of her delusions was to keep her occupied, and an appeal was, therefore, made to her kind feelings to engage her in preparing some lint for a poor man who had met with an accident. Her fingers at first would scarcely move; but when she saw others doing it, she at once set to and worked most diligently—for she was naturally of a benevolent and charitable disposition. The first step was thus made; she let us see that she could work, and she was convinced of it herself; the object now was to find a motive to induce her to do so every day. The fear of the cold bath furnished this motive; for M. *Leuret*, finding her one day gloomy and silent, began to scold the nurse for not giving her the cold bath every day, adding that the use of it was absolutely necessary for every one that did not work at something. This had completely the desired effect; she

worked a great deal with her needle; her mind was thus diverted; gradually she entered into conversation, resumed her music, and actually began to laugh at her past delusions. Within two months Madame E. was able to return home; she travelled about for some time; and ever since, a period of seven years, she has had no return of her mental malady.

In commenting on the preceding case, M. *Leuret* impresses on his readers the importance of a physician accommodating his manners and mode of treatment to the peculiarities of each case. "He must strive to make himself master of all his patients; but this he cannot do unless he varies and multiplies his means of action in innumerable ways. According as need be, he should employ either a firm and even a rude or a conciliating manner, either condescendence or despotism; he must flatter in one instance, and check in another, certain passions; now lay a little stratagem and now act with the utmost candour and seeming confidence; in one word, seek in the minds and tempers of those he wishes to cure for some spring or lever, which, once set in motion, may restore to the mental faculties the energy or the rectitude which they have lost."

CASE.—Vanity and Love—demand of a princess in marriage—Mental Alienation—carried almost to Mania—Moral Treatment; Cure—duration of the illness, eight months.

A man 37 years of age, and who, although the son of an old general of Napoleon, had been for a length of time in a draper's shop, where he had uniformly shewn great attention to business, became all at once smitten with desperate love for one of the daughters of Louis Phillippe. He followed her carriage wherever she went, tried to attract her notice by dressing in the most fashionable style, and even sent presents of gloves, &c. to her. He became at length so extravagant as to stand at one of the corners of the palace and kept moving his hand from his lips to and fro, as if wafting kisses to the fair princess.

When taken to the Bicetre, he was guarded in his answers: but whenever any allusion was made to the royal family, he indicated by his gestures that his ideas were constantly recurring to that subject.

M. *Leuret* did not take any notice of him for some time, except every now and then expressing his surprise that he should have given up the respectable occupation of a merchant to become a dependent upon charity. But as he continued in the same state for several weeks after his admission, he was ordered to have the cold bath, and also to work every day in the garden. He refused; a douche was ordered; and immediately afterwards M. *Leuret* remonstrated with him on the absurdity of his conduct.

This time he began to listen, and requested liberty to write the history of his case. In the report, after alluding to his devoted attachment to the royal family, and his long and ineffectual attempts to obtain a situation in the palace, he expressed his regret that he had ever written to the princess, or annoyed her in any way; attributed his delusions and the circumstance of his being confined in the Bicetre to anxiety of mind, and exposure to the hot sun on one day that he walked to *Eu*, to solicit an interview with Baron Athalin; and requested to be permitted to return to his commercial speculations.

M. *Leuret* was satisfied that a very considerable amendment had already

taken place, but insisted that he should remain some time longer, and his attention be kept occupied with various employments. At length seven weeks after his admission, he was discharged as cured. M. *Leuret* saw him five months afterwards, and could observe no traces of insanity in his conversation or in his conduct.

CASE.—Habits of Intoxication: ambitious ideas; project to reform the society of the world—moral treatment; cure—duration of the illness, several months.

A man, 37 years of age, lost his situation as clerk in a public office in the country, in consequence of frequent inebriety, although he always professed the most rigid religious principles.

He came to Paris, and became a joint editor of some publication: his irregular habits still continuing, he again became embarrassed, and partially lost his employment a second time. All the while, however, he continued to be most strict in his religious observance, and in his sober moments condemned his conduct as most improper. He became more and more inconsistent in his actions, and at length discovered that he was a man of extraordinary genius who was destined to revolutionise the world. He was taken to the Bicetre, where he was kept, as a matter of course, quiet, sober, and away from his nonsensical companions. As no change, however, took place in his extravagant notions, he was ordered to have the douche. While in the bath, M. *Leuret* related to the assistants how inconsistent he was; for, while he professed to be very religious, he was a drunkard, a liar, and a conceited puppy. The effect of the douche was instantaneous; he immediately renounced all his ideas of regenerating the world. To try how far his promises were sincere, M. *Leuret* asked him whether a second douche might not be of use in confirming his good resolutions; but, as he gave the most positive assurances that he would never relapse into his former errors, and combated these errors with the most rational arguments, the bath was not repeated. He kept his word; remained for a month in the hospital, and was then discharged.

M. *Leuret* saw him several times afterwards; and, although his head was certainly not very strong, he did not exhibit any symptoms of mental derangement.

We might have selected other cases, related by M. *Leuret*, in which the insanity had been of longer duration, and was more confirmed than in any that we have given. But these will suffice to illustrate his method of treating some of its numerous forms, and to show how much may be done by the firm adoption of a judicious moral regimen in cases, where the mental disturbance is not accompanied with any bodily disorder.

A PRACTICAL TREATISE ON THE VENEREAL DISEASE. FOUNDED ON SIX LECTURES ON THAT SUBJECT, DELIVERED IN THE SESSION OF 1838-39, AT THE ALDERSGATE SCHOOL OF MEDICINE. WITH PLATES. By F. C. Skey, F.R.S. &c. 12mo. pp. 195. Three Plates. London, 1841.

Mr. SKEY appears to be a staunch advocate for the self-generation of venereal diseases. He says,—

“The term self-generated (I will not say spontaneous, for that is still more objectionable) expresses something short of the idea I wish to convey. I mean that, in a certain condition of constitution, the elements of a poison lie dormant, which may be developed by the action of a single irritant, and that that irritant may exist in the form of any apparently simple, but unhealthy exciting cause in the female, such as leucorrhœa, menstrual fluid, or indeed any impure secretion of a puriform character; it may also be developed by mechanical irritation.” 4.

Certainly Mr. Skey deserves a testimonial “by general subscription of the ladies;” for his doctrine, carried out, would be to them charity, covering a multitude of sins.

“If we adopt the practice of inquiry into all the cases which come under our eye, occurring in persons in a respectable station of life, and of course worthy of credit, it is remarkable how frequently patients themselves express their astonishment at becoming the subjects of disease. And well may they express astonishment, and marvel at its existence in their own persons, for there is often I am persuaded, no other ground for the supposition of disease in the female, who is supposed to have produced it, than is sanctioned by prejudice, and by a too implicit confidence in the doctrines of our progenitors.” 5.

It appears to us that Mr. Skey carries his notion of the self-generating properties of venereal diseases à l'outrance. Did they exist to the extent he argues for, we really conceive that not a married couple in Great Britain would be safe. Yet, amongst those married persons, it does so happen, that venereal disease seldom occurs without there being a pretty good reason for it.

Mr. Skey professes that he is “a thorough believer in the plurality of poisons.” It is difficult to understand the construction of the following passage, but the author's meaning is obvious.

“I can distinguish, to my entire satisfaction, at least three distinct forms of sore, succeeded by three as distinct results; and I should stare with wonder, and with increased admiration, at the infinite variety of nature's products, were I to discover in any particular case a direct departure from the general laws which appear to me, to govern them. But these laws exist but for a period. The distinction of diseases which appertain to this subject at the present day, in virtue, and that onward march from maturity to decay, from which disease itself is scarcely exempt, will probably be inapplicable at a future one. I do not so much dwell on the liabilities of individuals to a peculiar character of sore, although I consider this subject by no means unimportant, as I attach importance to the doctrine I shall afterwards endeavour to inculcate, that each sore has peculiar results, incidental to neglect of treatment.” 19.

The three kinds of venereal sores admitted by Mr. Skey are—1. The common sore, or *venerola vulgaris* of Mr. Evans; 2, the phagadænic sore;

and, 3, the indurated sore of Mr. Hunter. These and their modifications include all forms of venereal ulcers.

Mr. Skey thus speaks of mercury in the *venerola vulgaris*—

“As a general rule, there is no necessity for the administration of mercury, in any form or quantity. At the same time you need not forswear its use. In moderate quantities, it is inoffensive and unobjectionable, and may often contribute to the healthy progress of the sore. Five grains of blue pill to an ordinary patient, not the subject of mercurial idiosyncrasy, may accelerate the cure, when given each, or alternate nights; but it should not be used continuously for more than a few days. There is no advantage in what is called ‘touching the gums;’ but generally a great disadvantage both to the sore, and to the health.” 47.

With an extract containing Mr. Skey’s treatment of the sloughing sore—treatment which we confess, we are not ourselves partial to—we conclude. There is much in the work which may admit of question, but as it has been already published in another journal, we cannot devote further space to it in this. We recommend it to our readers.

“The treatment is essentially antiphlogistic, and that, almost without reference to its probable injury to the future health of the individual. The destructive process is so rapid, and the value of the organ so great, that no expense can be deemed exorbitant, with which to purchase even temporary relief. If the disease be external, and accessible to local means, even the antiphlogistic treatment must yield to more direct means of arresting the destructive actions of the sore. This may be effected by the free and unsparring application of undiluted nitric acid, which must be carefully but extensively applied on every part of the gangrenous surface, till the whole is converted into a soft white crust. This may be followed by a full dose of laudanum, and the crisis of the disease is accomplished. When the sloughing action is confined within the phymosed prepuce, and of course inaccessible to local means, as large a quantity of blood must be taken by venæsection as the patient will bear, accompanied by the exhibition of full doses of mercury both internally and by inunction, with the view to affect the system as early as possible—not with the intention to kill a poison, but to arrest inflammation, of which the gangrene is the immediate product. Frequent ablution, by injection of warm water, or strong decoction of poppy heads, by means of a syringe, should be employed for the purpose of dislodging any disengaged portion of the gangrenous mass that may be separating; and cold water, or a bread-and-water poultice, as may best suit the fancy or the reasoning of the practitioner, should be applied around the penis.” 61.

AN INQUIRY INTO THE EFFICACY OF DIGITALIS IN THE TREATMENT OF IDIOPATHIC EPILEPSY. By *Edmond Sharkey*, A. B. M. D. one of the Lecturers on Midwifery in the Hunterian School of Medicine, Charlotte Street. 8vo. pp. 80. Highley, London, January, 1841.

MOST practitioners are aware of the obstinate nature and the deplorable consequences of epilepsy. Yet, every now and then we find it disappear, with or without remedies. Where there is no actual deformity of the skull, or imbecility of the mind, we ought to give a fair trial to medicine and diet. Whatever specific we may employ, a regulation of all the great functions is the primary and the principal object. This procedure alone, will sometimes arrest the disease or greatly prolong the intervals between the attacks. The next prominent indication is a drain, by means of a seton, from the neighbourhood of the head. These failing, recourse must be had to nostrums or specifics, as the nitrate of silver, the oxide of zinc—or, lastly, digitalis, the subject of the treatise.

We are informed by Dr. Sharkey, that about nine years ago, his father published a paper in the *Lancet* on the Use of Digitalis in Epilepsy—but no notice has since been taken of the remedy by any authors. Some of these cases are re-stated by Dr. Sharkey, and others are added. We shall condense some of the more interesting of these.

Case 1.—Miss Fowkes, aged 17 years, had been epileptic for twelve months, and commenced the present plan on the 4th Sept. 1817.

R. Fol. digital. purp. recent. ꝑiiss. contunde in mortario in pulvam; deinde adde cerevisiæ fortioris Oj. infunde per horas septem, deinde cola exprimendo. Capt. liquoris colati ꝑiv. cum pulv. fol. polypodii quercus siccatorum, aut radicis siccataꝝ gr. x.

5th Sept.—In ten minutes after taking the draught yesterday, she had a fit, but shorter and less severe than usual. She vomited frequently and violently till twelve o'clock to-day—pulse sunk from 120 to 54, intermitting and irregular—great headache and pain in the epigastrium—cramps in the legs—extremities cold. 6th. Had no fit—vomiting continues till ten A. M. to-day—pulse 40, irregular—great prostration of strength—pupils dilated from the beginning. 7th. Continues to vomit bilious matters—pulse 40—fæces bilious. 8th. Continues free from fits—vomits much—pulse 60, irregular—great debility—pupils dilated. 16th. Continues free from fits—strength restored—pupils contract—appetite good. Our author watched this case for two years, and there was no return of the fits.

There is no description of this young lady's fits, but from some expressions, they appeared to have been almost daily, before the Herculean remedy was applied. This is not the character of epilepsy. We have little doubt that the case was one of those anomalous hysterical convulsions to which many females are subject. But whatever was the nature of the malady, we think the patient was as nearly destroyed by the remedy as any could possibly be. We should be extremely sorry to exhibit such a dose to a young female, or, indeed, to any one.

Case 2.—A gentleman had been afflicted with epilepsy for twenty years. He was of robust form, sanguine temperament, great abdominal congestion, but generally good health.

"He was treated by several physicians of eminence, and pronounced incurable. Amongst other remedies, he took nitrate of silver, to a large amount, which discoloured him horribly, without advantage. Suffice it to say, for the sake of brevity, that I had him under preparatory * treatment for two or three months without any abatement of the fits. I administered the digitalis and polypody (the leaves) to him as above, with similar effects. The prostration of strength and diminution of pulse in this case was absolutely frightful. He has had no return of fits for ten years.†

I also cured his brother six years ago, who likewise has been since exempt." 22.

Case 3.—This patient was insane as well as epileptic. When the dose was given, the pulse was 140. He refused to drink gruel after the dose, (which, we observed, was generally given,) and did not vomit till the next day, and that by the assistance of ipecacuan. His pulse had fallen to 56. He was removed to a lunatic asylum, where, it is said, he recovered his reason, and remained free from fits.

In two or three other cases of epilepsy complicated with uterine derangement, the treatment failed in the hands of Dr. Percival.

In 1827, Mr. Scott published a case of hydrocephalus in a boy, nine years of age, accompanied by epileptic fits. The hydrocephalus was removed, but the fits continued to recur daily, and usually six or seven times in the twenty-four hours.

"They were generally preceded by twitchings of the facial muscles, but sometimes gave no indication of their approach. Leeches and blisters to the head were first tried, but with the effect of rendering the fits more frequent and severe. He then was put upon the use of Tinct. Digital. which was gradually increased so far as gtt. xii. three times daily. Under this treatment a cessation of the fits for four months was obtained, but the twitches continued. The digitalis was now stopped, and the fits returned; but were milder, and recurred once in ten days. The mother of the boy having observed that the twitches were more violent at the approach of the fit, adopted the plan of giving the Tinct. Digital. freely when these were observed; thus the twitchings were diminished, and the fits apparently prevented. She sometimes gave as much as a teaspoonful at once. On one occasion the boy got at the bottle, and drank the entire contents, (from two to three drachms,) producing the usual symptoms of an over-dose, which were removed by the administration of brandy and opium. He had two severe fits at the time. The mother's account was that an amendment commenced after this." 26.

The final issue of this case is not stated; but it is perfectly clear that these fits were convulsive rather than epileptic.

A case is related in our Edingburgh contemporary, in which "fits of im-

* "Regulation of secretions, &c."

† "In reply to inquiries made of this gentleman, through my friend Dr. Wood, of Cork, I yesterday was informed that he never had them after; and that he also had an acquaintance who was subject to them, who was treated by my father with digitalis, and recovered."

perfect epilepsy co-existed with diseased heart, for a period of three years and a half." Digitalis, in doses of a quarter of a grain, was given, and when two grains were taken the fits disappeared. The case, however, is not very clearly stated.

Case 4.—There is a case published in the *Lancet*, October 8th, 1831, by Mr. A. Courtney, where a boy was seized with epilepsy at the age of 16 years, without assignable cause. He continued subject to fits for nine years, and, in the years 1802, took digitalis and polypody, in the following manner.

"Recent leaves of digitalis four ounces, infused for twenty-four hours in a pint of boiling water. When strained, this was divided into three doses, one of which was ordered to be taken every third day with fifteen grains of the dried leaves of polypody in powder. But such was the effect of the first dose, that his relations would not permit him to take a second; for, a few minutes after he had taken it, a vomiting commenced, which, in spite of every thing that could be done to allay it, continued almost incessantly for five days, accompanied with such prostration of strength, that it was thought at times doubtful whether he was dead or alive." He never had a return of the fit up to the date of the communication." 28.

It is needless to advert to any more of these cases, because they appear to us very unsatisfactory, and as almost all of them have been already published. The author institutes a comparison between the success of digitalis, and that of some other heroic remedies, especially the oil of turpentine and the nitrate of silver. It need hardly be stated that the comparison is in favour of the remedy proposed by himself. But it requires not the gift of prophecy to foretell that this remedy will never come into general use. Digitalis, in the moderate doses of common practice, can be of no service in epilepsy—and in the doses recommended in this work, it would be dangerous, especially as it is a very uncertain medicine—some constitutions bearing it well, while to others it proves a poison. This uncertainty is far greater than with any other medicine in the *Pharmacopœia*. It is a very cumulative drug, sometimes appearing to lie dormant for a time in the system, till an explosion of alarming symptoms takes place, which, if not dangerous, are extremely distressing. The evidence in favour of digitalis does not appear to us so great as it does to Dr. Sharkey. We think the balance is far on the side of the nitrate of silver. The great objection to the latter—the discolouration of the skin, is now pretty well removed by the fact, nearly, if not completely, ascertained, that the oxide of silver does not produce the same phenomenon. The nitrate or oxide of silver never injures the stomach, but, on the contrary, proves one of the most powerful anti-dyspeptic remedies we possess. We have never met with a single instance of discolouration, where the exhibition of the nitrate was limited to three months. Dr. Sharkey never alludes to this immunity, though promulgated by the late Dr. Baillie, and others, long ago. Dr. S. seems to hint, at page 48, that the discolouration is "*an injury extending to their offspring.*" If Dr. S. can adduce an instance of this transmission of blue skin to the progeny, we shall be exceedingly surprized. We should just as soon expect to see the children of Greenwich and Chelsea pensioners born with wooden legs.

The greater part of Dr. S.'s work is occupied with physiological discussions respecting the operation of medicines, and especially of digitalis, which are really very ingenious, though not always conclusive, and indicate a talented and well-stored mind. We have only room for one extract from this part of the work.

Precautions.—As fatal results have occurred in persons who were for the cure of other diseases put under the full influence of digitalis, from want of proper caution, it seems necessary to state here that a patient, under these circumstances, should on no account be allowed to assume the erect posture, for, in the instances alluded to, (which however occurred in persons labouring under debilitating diseases,) the first effect of such efforts was to increase the rapidity and diminish the power of the circulation to such an extent as to produce, first, fainting, and subsequently death. And although I never saw or heard of any such accident in an epileptic so treated, and although, from its being a disease of unnatural excitability, I should say *a priori* that it was not likely to take place, yet the precaution is a proper one, and should in no case be omitted; more especially when we remember that in general the recumbent posture is less favourable to the epileptic invasion than the erect.* It is also better not to interfere with the course of its operation by the use of any stimulants, unless they are imperatively called for; should the necessity, however, arise, the means recommended in such cases should be put in practice. If, while the alarming train of symptoms mentioned as the effects of poisonous doses, (cold sweats, delirium, repeated faintings, convulsions, local and general,) have set in without the previous occurrence of vomiting; and if we fail in our endeavours to excite this by emetics, titillation of the fauces, &c. the stomach-pump should be used, ammonia and brandy administered, and in such cases, above all others, the horizontal posture strictly enforced. But I must again repeat, that the extreme case now supposed, is drawn purely from imagination, so far as my own experience of large doses of digitalis in this disease is concerned." 73.

Notwithstanding our dissent from the author on some practical, and even doctrinal points, we recommend his work to our readers as well worthy of perusal.

PHYSIOLOGIE ET HYGIENE DES HOMMES LIVRES AUX TRAVAUX DE L'ESPRIT, &c. Par J. H. Reveille-Parisæ, Docteur en Médecine, &c. Paris, 1840. PHYSIOLOGY AND HYGIENE OF PERSONS WHO DEVOTE THEMSELVES TO INTELLECTUAL TOIL, &c.

It is generally believed by those who support life by corporeal labour, and eat their bread in the sweat of their brow, that physical inactivity is downright idleness. Such persons can have no conception that weariness can be contracted in an elbow-chair, by now and then peeping into a book, and

* This is surely an oversight of Dr. Sharkey's. Ten fits of epilepsy take place in the recumbent, for one in the perpendicular posture.—(Ed.)

musings the rest of the day. Hence it is that the sedentary and the studious raise their envy or contempt, according as they appear to possess the conveniences of life, by the mere bounty of fortune, or to suffer the want of them by refusing to work.

It is, however, certain that to think is to labour; and that as the body is affected by the exercise of the mind, the fatigue of the study is not less than that of the field or manufactory. But it is equally certain that the labour of the mind is not attended with the same advantages. Exercise gives health, vigour and cheerfulness, sound sleep, and a keen appetite; while the effects of sedentary thoughtfulness are diseases that embitter and shorten life; interrupted rest, tasteless meals, perpetual languor, and causeless anxiety.

In gratitude to men of literary pursuits for the sweet enjoyments they afford us by their intellectual toils, we are in duty bound, as medical men, to tender our advice to them, and to point out to them, the dangers to health and to comfort, and to every thing that can make life valuable, inseparable from excessive exertion of the brain—to show them, in fact, how much the noble functions of intellectual life wear out and debilitate material life; and how destructive the labour of thought is to physical existence. Nature, anxious for the preservation of this existence, has traced out laws, the rigorous observance of which is to be found only in the infancy of society, or in the habits of savage life: the empire of these laws decreases as civilization progresses; and when, by this progression, the study of the sciences has become generally diffused, we see their adventurous and enthusiastic admirers pursue them even at the expense of life itself. Now in virtue of the order established in the creation of living bodies all the organs mutually aid and balance each other; nature has attached enjoyment and health to the regular and free exercise of all the functions, whilst she visits with the tortures of disease the too frequent or too prolonged exercise of any one organ, and the predominance of any one physical or moral function.

Every man who observes and reflects will, nay must, admit that a reciprocal action takes place between our physical and moral condition. Of such sympathies, like many other mysteries of nature, *causa latet*, the cause remains concealed, while the effects are palpable and obvious. This close, yet inscrutable association, this latent correspondence of parts seemingly unconnected, this reciprocal influence of mind and body has long fixed the attention of medical and metaphysical enquirers. Can we, says a modern writer,* conceive the mysterious inhabitant as forming a part of its own habitation? the tenant and the house are inseparable, so that in striking at any part of the building you inevitably reach the dweller.

If we look around and survey animated nature, we shall find that man, and more especially civilised man, is of all animals the one most liable to disease. How then must it be with those men who carry within themselves the very moving, impelling, and creative principle of civilisation? Every thing, which bears on social man, re-acts on their physical, as well as on

* D'Israeli's *Curiosities of Literature*.

their moral constitution, with an intensity almost always prejudicial to their well-being; every thing here combines to become an immediate cause of disease. A delicate organisation; or one rendered so by intellectual toil; extreme sensibility; and an incessant and habitual exaltation of this same sensibility; an imagination ever in a state of tension; the energies of the brain continually in action; a neglect and forgetfulness of those cares and attentions necessary to the preservation of health; what a crowd of causes calculated to destroy the springs of the human economy, and to undermine its strength; to render the body languid and consequently obnoxious to the effectual attacks of morbid agents; to convert life, in fact, into a continuous fever and a never ending struggle!! All diseases, to which the human race is liable, may become developed in men devoted to extreme intellectual labour. The elements forming their constitution, nay, their very thoughts, contain within them the germ and principle of a multitude of diseases, irritability, the great characteristic of deep thinkers, being the grand element which predisposes to inflammatory and nervous disorders. However, as every temperament has a particular tendency to some particular order of diseases, it is also observed in the case of studious and deep-thinking men, that some pathological affections are more frequent in them than others. Thus the delicate frame of Kirke White, who gave such extraordinary promise of great poetical genius, was doomed to become an early victim to pulmonary phthisis, the progress of which, though the seeds were probably laid at an early period of existence, was no doubt accelerated by the ardour and enthusiasm with which he prosecuted his favourite studies.

“ ’Twas his own genius gave the final blow,
And help’d to plant the wound that laid him low.”

We fancy we hear some laborious and enthusiastic student, whose declining health, induced by incessant study, has already awakened the alarms of his anxious friends, reply to their fond remonstrances, when dissuading him from his destructive course, in the indignant language of the Roman Satirist—

Et propter vitam vivendi perdere causas!!

Yes; with such an individual, mere physical life is not worth having; it is only in the intellectual and metaphysical regions of abstract meditation and intense thought he feels that he

— “lives, and moves, and has his being.”

The mere matter-of-fact person, however, who attaches some importance to the condition in which the mind’s tenement is kept, who condescends to feel that there is some sympathy between his mind and the body, and that on this sympathy much of the happiness and misery of ordinary mortals mainly depends, such person, entertaining a less sublimated, we admit, but in our opinion, a more correct view of the matter, may reply to the above quotation in the forcible language of Martial—

Non vivere, sed valere, vita est, ———

Having thus introduced the subject of our author's work to the notice of our readers, we shall proceed to give an analysis of its contents.

The object of the author, in the first part of his work, seems to be to reduce every thing, no matter how refined in intellectuality, to the property or function of sensibility, and thus to explain by the laws of this function the moral existence of men the most distinguished for their works and their genius. These men, he says, predisposed to lively sensations and ardent emotions, (for in them the impression surpasses in intensity and duration that which occurs in ordinary mortals,) become voracious of these very sensations. By the mass of ideas which they acquire in a short time, they soon attain a vast store of knowledge; then endowed with a capacity of expressing this, and carried away by their own thoughts, they feel an irresistible desire of communicating them to the external world. These thoughts it is which impose laws on kingdoms, become the vivifying strength of those mighty souls destined to civilise, elevate and degrade nations. Cromwell, in his time, was the visible destiny of the moment, as Napoleon was in ours. Now, he asks, how is such vital and intellectual activity compatible with tranquility and regularity of the system? Is not life in excess here, as well in the moral as the physical being? Observe, accordingly, that incessant inquietude, that unremitting and restless activity, that internal ebullition, which is every instant disturbing the organic powers, that feeling of life so intense and occasionally so painful, which imparts to the existence of distinguished men something violent, restless, feverish and inexplicable, something, in fact, altogether out of the routine of ordinary life. This state of inquietude either ceases altogether, or at least diminishes, when life is very active, or when the torrent of ideas is allowed to flow. Such a crisis is in general salutary. It is then those master-pieces are produced, then it is those treasures of the imagination are poured forth for the relief and satisfaction of the individual's self. Poetry is in the poet just as sound is in the lyre; this is a positive philosophical truth.

Men of genius often work without caring what becomes of their work, and merely to satisfy themselves. Our author next anticipates an objection which may be urged against these principles; namely, that they hold good only with respect to artists, whose imagination is more ardent than that of the servant. This, however, he conceives to be a mistake. The servant, he says, who is endowed merely with the capability of knowing, is but a mere man of learning; he knows what has been already done; but when possessed of high intellectual faculties, should he wish to extend the boundaries of science, he investigates events, and *imagines*. In this view he is fully borne out by every day's observation. There is no individual in the social, civil, or philosophical world, who has more frequent occasion to draw on the stores of imagination than the natural philosopher, in order that he may be able to account for the phenomena presenting themselves in the physical world. Should the facts refuse the imagined explanation, it is a mere idle theory or hypothesis: if, on the other hand, the facts correspond with it, and the theory so imagined be but the expression of them, a progress is made. To seize on a general principle, to investigate its most remote consequences, and to trace them with a force and vigour of thought capable of attaining great results; then to express and generalize this principle, so as to render it applicable to every thing which may be deduced from it; such

an intellectual performance is but the flight of a powerful imagination. Homer and Archimedes were in the same category with respect to invention. So that this ardent sensibility of soul, which impassions all its ideas, is found as well in the philosopher as in the artists; it is the same enthusiasm for their works, their conceptions, their theories, or their systems. In fact there is just as much of vivid imagination in first conceiving such hypotheses as the *Anima* of Stahl, or the *Archæus* of Van Helmont, as in imagining the most unsubstantial creations of the most fanciful poets; with this difference, however, that stubborn facts may sometimes be adduced to test the truth of the physiologist's imaginings: from which ordeal the poet is quite secure.

Our author now goes on to shew that, in consequence of this intense feeling, these existing and powerful emotions of great minds, the faculties sometimes become debilitated. The soul, as it were, becomes dried up, just as the body of the sensualist is enfeebled and worn out. The cause of these phenomena is one and the same. However superior the organization of the nervous system may be, it cannot go beyond certain limits. The intellectual and moral life, though the primary, essential and true life of man, yet like every vital act, requires to be kept within certain bounds. Should we wish to give to the faculties of feeling and of knowing an unlimited extension, the organism soon refuses to respond to such exertion; it becomes enervated more or less rapidly. Then it is the man of genius becomes a prey to his own extravagant ideas. He still desires; but what does he desire? what does he wish? why does he sigh? he knows not. This ardent aspiration of the faculties after something undefinable and increate, such a soul, sometimes carried up to the third heaven, sometimes saddened and depressed even unto death; those flights of a delirious, restless imagination, without apparent end or determinate object, have been frequently observed and as frequently described. Such a state really exists in certain individuals endowed with great moral energy exercised too early and without moderation.

An additional proof that this extraordinary state depends on sensibility prematurely exhausted is, that the imagination, no longer finding any external element, turns in upon its self, and makes prodigious efforts to combat the evil effects of ennui and of too much thinking. Flying from one abstraction to another it ultimately rests confiding in the truth of Rousseau's oft repeated maxim:—*Il n'y a rien de beau que ce qui n'est pas*. Now the first organ of this is an extremely excitable nervous system, an incessant and active sensibility. The most out-and-out spiritualists are often reduced to this same consequence in spite of themselves. Pascal says truly, "we must not forget ourselves; we are body as well as mind." Plato, that prince of spiritualists, so famed for conceiving and embodying the most sublimated abstractions, says, that "every pain, every pleasure, has, as it were, a nail, whereby it fastens the soul to the body, assimilates it to itself, and makes it believe that nothing is true but what the body has told it."

Nature has then wisely ordained that the harmonic play of our sensations should be successively excited with various shades of activity and strength; but she at the same time apprizes us, that it is madness to desire superhuman impressions with our present state of organic debility, or to require of life more than life can give.

THE TWO WAYS IN WHICH LIFE MANIFESTS ITSELF.

Without infringing on the principle of unity, it may be said that life presents itself under two general and perfectly distinct modes, *sensibility* and *contractility*; the former depending on the nervous system, the latter on the muscular system in general; these two modes of vital manifestation have been called *innervation* and *locomotion*, the *sensitive powers* and the *motive powers*. These two properties are found in all the phenomena of life, though in different degrees; their development is often in an inverse ratio, yet it is sometimes simultaneous. After pointing out the progressive perfection of the nervous system from the individuals constituting the lowest class of animality up to man, in whom it becomes the type of the most perfect organisation, and after shewing the vast importance and immense extent of the diversified ramifications of the system, whereby it surrounds the entire economy in a sort of nervous atmosphere, our author comes to the enquiry as to how impressions take place, and how the cerebral influence is propagated—he here enumerates the various hypotheses which have been given in order to account for this effect; but acknowledging the unsatisfactory state of our knowledge on this point, he gives up the investigation, and next comes to the consideration of SOME OF THE MOST GENERAL LAWS OF SENSIBILITY.

The *action* of the nerves has for its results *sensibility*; that is, an aptitude to receive impressions, whether from the external world, or from the organism itself. These impressions, transmitted to the individual, *to self*, become perceptions, intellectual and moral acts; and these acts, in their turn, manifest themselves externally by a reaction of the nervous centre on the periphery. Thus, on the one hand, we have impression, transmission, action; that is, an intelligence which knows, a will which determines, and a power which acts: such is the fundamental law of *sensibility*, considered in its greatest possible extent. And thus our author will have it, that this property of living beings is not a mere passive property, a mere *receptivity*, according to the doctrine of Kant and his followers, but that there exists a proper and palpable activity of the nervous system taken as a whole. This system, then, being the material and indispensable condition of the modifications of thought and feeling, the measure of its perfection will be the measure of the intellectual faculties in the scale of beings.

It is, our author observes, to this system that man owes his superiority. The study of the nervous system considered from one animal to another, presents immense differences, both in an organic and mental point of view. Nor is it in the different classes of animals only these differences are remarked, but also in individuals of the human species. Thence results an extreme variety in the capacity of feeling, and consequently a greater or less development of the intellectual faculties. Generally speaking, we appreciate the energy of life by the force, duration, and frequency of our sensations. Now the more adapted the organ is to feel, the more marked in us is the desire of being moved, and of being, as it were, apprised of our existence; there are some persons who cannot be satisfied in this respect; they indulge in this desire even at the expense of their well-being and health. On what, our author asks, does this *voracious appetite* for sense-

tions and mental emotions depend? on nothing else than a very complicated nervous apparatus, endowed with an extraordinary capacity for feeling; a capacity which is only increased by the multiplicity of the impressions made on it. This desire of mental emotions is more especially remarked to exist among civilised nations, and is justly considered to constitute the elementary principle of the fine arts. Harmonious poetry, enchanting music, are judged to be such only according to the sensations which they excite in the reader or hearer. It is the very perfection of art, when the reader is so swayed, so completely subdued, as that he no longer knows whether he holds a book in his hands. In what does this great, this grand secret consist?—in multiplying the impressions, in striking the imagination, in, as it were, pricking the nerves with the stings of the mind. Thus the sphere of action of the nervous system, as of all the other systems, increases with the extent and perfection of this same system. There is another law influencing the sensibility of relation, which is not of less importance; it is this, that it manifests itself in two ways, *pleasure* and *pain*. The former includes every sensation which we would wish to prolong, and which seems useful to the system; whilst the latter includes every sensation which we would wish to repel, as injurious to existence. And is it not obvious how well the organic movements accord with this explanation? Should the sensation be pleasing, instantly all the movements become expanded, the tissues unfold themselves, nature seems to present the greatest possible extent of surface, so that no part may escape the impression; whilst in pain, on the contrary, these same movements become constrained, the tissues contract, nature presents a *minimum* of surface to the enemy, as if she wished to escape him, or as if she wished to concentrate her strength to combat him. Pleasure and pain are real elementary sensations, the two poles of sensibility; for the other sensations are but shades of them. It may be remarked, also, that what is called *moral sensibility*, in a similar manner presents only two primary or fundamental feelings, namely, love and hate; both being the grand principle of our passions, whether such passions be of an exciting or depressing kind. Accordingly pain and pleasure have but one common origin, and are therefore closely connected. There are painful sensations which are not without their charms; and at the extreme of pleasure, pain commences. The latter, as we see, is necessary and indispensable to the regularity of the functions, it being, as it were, the exciter of the conservative principle, the signal and cry of the suffering organ; nor has it, indeed, been clearly shewn which is the more injurious or the more useful to man, pleasure with its roses, or pain with its thorns.

Whatever be the activity of these two sensations, neither of them can be continued, intermission of action being one of the characters of sensibility. Like to all the other functions, cerebral sensibility, with which we are at present more immediately concerned, presents alternations of rest and of action: these intermissions are necessary for its reparation, which is completed only by sleep. This law of intermission of action now under consideration is of the highest moment not only for bodily health, but also for mental or intellectual energy, and for every thing connected with cerebral action.

It may again be observed, that this intermission not being complete, nervous action never presents that character of uniformity and steadiness

remarked in other functions. Mobile, inconstant, exceedingly variable in its intensity and energy, sensibility often passes, with astonishing rapidity, from the lowest degree of prostration to the highest point of exaltation. It is a free, an *independent* faculty, as incalculable in its effects, as unknown in its cause. Alternately ardent, strong, prostrated, exalted, it pervades and stimulates certain organs, and suddenly abandons them for others. Its proportions never continue the same in any one organ; fixity, permanence, or precision of action are never to be predicted of it.

This law of *mobility*, which is so important, gives rise to another no less essential to be known, we mean the law of *concentration*. It has been said that it was with sensibility as with a fluid of a given, determinate quantity; which, if it flow plenteously in one of its channels, becomes proportionally diminished in the others. The comparison is by no means deficient in justness. It is certain that the more an organ is excited, the more sensibility becomes accumulated in it, and always at the expense of the sensibility in other organs. This simple law of physiology, observed from remote antiquity, is probably one of the most fruitful with respect to disease, hygiene and philosophy. Confining our remarks to the intellectual faculties, we may observe, that this law of concentration is what is usually called contemplation or meditation, which is combining or bringing together all the data on any subject whatever, so as to examine them, and to discover all their relations, and to deduce consequences from them. These consequences are then applicable to the arts and sciences. Thus thought becomes the greatest of human powers. If genius be, as it were, the focus of a burning glass, which throws heat and light only on one point, it must certainly be so by its power of condensing the nervous action with the greatest possible force. Such is partly the origin of the high intellectual faculties, the happy or sad prerogative of certain men destined to agitate, excite, and transfix inferior minds. It may be objected, that we are here confounding the action of the brain with sensibility in general. To this we reply that the nervous system is identical in all its parts, and that as sensitive unity or unity of sensation is indispensable to unity of being, since it is what constitutes it, there must be some one organ to sympathise with all, to communicate with all parts of the system; this organ is the brain. Nor is it less true, however, that if this organ is always the point of concentration of sensibility, the other organs soon become changed by the deficient supply of that innervation which is necessary to their normal action. This is one of the causes of the loss of health in those who exercise the mind immoderately. We already see the origin of those evils which torment the man of genius, and which are engrafted as fruits of death on the tree of life.

We may further observe that, in certain cases where cerebral excitement is carried to the highest degree, the other organs are almost insensible to external impressions. The soul no longer perceives any thing external; and the individual or *self* seems to be brought back to his state of metaphysical simplicity. Mental abstraction, enthusiasm, contemplative ecstasies, certain diseases, as delirium, or catalepsy, shew that these phenomena are not uncommon. They are also observed in those engaged in profound meditation. Archimedes, when intent on solving a geometrical problem, was, one might say, a mere intelligent abstraction. when the Roman soldier

struck him. Tertullian well said of the enthusiastic martyrs of the Christian faith: *nihil crus sentit in nervo, cum animus in calo est*. Such a state however cannot last: the disproportion of the innervation is too great not to destroy the equilibrium of the functions.

What has been now said of the variations and oscillations of sensibility in general, is equally observable in the intellectual faculties, more especially when they are very active and very much developed. There is one in particular, which presents this character in the most striking manner, and that is the imagination. There is no intellectual faculty which presents more variety in its energy, in its degrees of depression or elevation than this. What some have called its *prism* is nothing but the different modifications of an extreme cerebral sensibility. The mobility, and inconstancy of the imagination are the facettes of this prism, the reflexions from which convey to the soul alternately and with surprising rapidity, the sensations of joy the most lively or of melancholy the most profound. Moral sensibility, like its great origin, physical sensibility, is subject to certain laws. Rigorousness of method, fixity of rule, are never applicable to it, especially when it is active and predominant. If it be asked whether calmness of the senses, tranquility of the heart, the gentle undulations of thought, which prove so well the moral and intellectual harmony, are attributes of beings eminently sensitive: we say, undoubtedly not. And the reason is, because the force of impulse, the exciting power, is always either too weak or too energetic, the difference of the effects being directly proportioned to the variability of the principle of action. This explains why the character of individuals strikes one at once by certain inequalities invariably owing to the numberless fluctuations of sensibility. It has been truly said that a long catalogue might be drawn up of the terrors felt by the brave, and of the absurdities fallen into by the man of mind; that it is physically impossible to continue a great man from morning till night.

Very remarkable effects oftentimes result from the excitations and these extreme and continual variations of sensibility. The one is a complete exhaustion of this property, a total prostration of the physical and moral powers; whilst the other, and one which is much more common, is that the nerves acquire so great an excitability, that the slightest stimulus will occasion a nervous action totally disproportioned to its course. The consequence of this is, that the *intensity* of the sensation will depend less on the intensity of the cause, than on the disposition of the individual.

This state of extreme irritability, when carried to its highest pitch, is justly considered a disease. It has been further observed, that acute senses, excessive nervous irritability, feelingly alive to the slightest physical and moral impressions, will generally, if not always, be found to correspond with a mobile, irritable, and inconsistent character. Such a constitution again re-acts on the organs and disturbs their functions; the mind every instant throws its incasement into confusion. Every one must have observed such a person, either suffering or fancying that they suffer, without being able to assign the slightest cause for it.

Sensibility is thus the property *par excellence* of organized living beings; it attains its highest amount of activity in man; it is by it he exists, acts and lives; in a word, sensibility is, as it were, the material of which life is made.

This property, however, is not merely the moving principle of organic action; through the medium of our consciousness it becomes the source of our pleasures and pains; it influences the character, the propensities, the will, the ardour or weakness of the imagination, the violence or moderation of our desires, the activity or inertness of the intellect. Considering the matter physiologically, we may say that man is what sensibility has made him.

The second form in which life manifests itself is contractility; a property which resides more especially in the muscular system, though always under the influence of innervation. The most contractile organ in the body is also the most sensible. The heart is of all muscular organs the most irritable, and it is also that which seems most under the immediate influence of the brain—hence it may be fairly inferred that sensibility and contractility have their origin in the nervous system. We know that a violent electric shock, or poisoning by prussic acid can destroy both, and that in this way life is arrested at its very source.

We may remark, however, certain differences between these two properties with respect to their mode of action, and the phenomena which they present.*

Sensibility receives impressions and transmits them; contractility triumphs over all external obstacles, whether instinctively or consciously. Sensibility, a careful sentinel, keeps watch within and without; but it is contractility alone which acts and re-acts. Properly speaking, sensibility or nervous power is the regulating principle, which warns, directs and commands, whilst contractility, or muscular power, is the agent which obeys and executes; it is, as one might say, strength personified. These two properties are mutually dependent on each other. Without contractility, sensibility would be devoid of result, action, or influence; without sensibility, contractility would have no mover, nor director. Sensibility is the first called into play; it appreciates the relation which exists between the exciting body and the degree of organic re-action requisite, whilst it is to contractility that such re-action is confided. The animal and vital functions come within the domain of contractility. We may here observe that sensibility, when exalted to a high degree, is capable of communicating to contractility an extraordinary, though always irregular, amount of energy, as we sometimes see in the cases of maniacal and hysterical patients when they are convulsed.

THE FUNDAMENTAL LAW INFLUENCING THE TEMPERAMENT OF PERSONS DEVOTED TO MENTAL EXERTION.

If all parts of the human body possessed the same degree of energy; if we could attain a uniform and constant equilibrium of the organic powers, there would then be no such thing as *temperament*. Then we should have the *beau idéal* of physiological symmetry; but such a thing does not exist. One or more systems of the animal economy, or some one important organ,

* Of the anatomical difference of the two orders of nerves on which these two properties depend, we shall take no notice, for obvious reasons.

obtains the mastery, and this gives rise to what is called *temperament*. When to this physiological condition other circumstances are added, such as peculiar habits of life, education, climate, or diseases, such temperament becomes modified, it becomes increased or diminished according to the nature and direction of the causes now mentioned.

Of all the powers of the system those probably which present most variety in their energy, are the *sensitive* and *motive* powers. Originally established for the purpose of aiding, balancing and moderating each other, in order to the preservation of health, it seldom happens that such action is duly proportioned. To feel and to act are the prominent duties or business of life; our preservation in *being* and well-being depends on the prudent combination of their action. But how difficult it is to keep them within the limits compatible with health! In some persons the sensitive powers obtain the mastery; they acquire, sooner or later, a marked predominance: the nervous apparatus is then endowed primarily and originally with a great capacity of action, a capacity, which only increases by the very inordinate exercise of this power. This increase is in conformity with a physiological law according to which an organ continually in action progressively acquires additional strength, energy and preponderance. But, on the other hand, and in virtue of the same law, if the sensibility is more active, contractility diminishes in the same proportions. The consequence of this is, that the nervous system attains the ascendancy in the animal economy, the vital powers become concentrated towards it, whilst the contractile vigor of the organs ceases to be proportioned to this abnormal state. Certain functions acquire extraordinary activity, whilst others become languid from defect of innervation. Hence it is the energy of the radical powers of the economy ceases, their distribution being no longer equal. Such phenomena are observable in extremely nervous persons, but more especially in persons who exercise their mental faculties too much. From these considerations the following law is laid down:

On the one hand: ORIGINAL NERVOUS DISPOSITION;

Then, EXCESS OF ACTION;

Finally, EXTREME, CONTINUED PREDOMINANCE OF THE NERVOUS SYSTEM.

On the other hand: GRADUAL AND ALMOST ABSOLUTE DIMINUTION OF CONTRACTILITY.

Such, according to our author, is the fundamental law, the organico vital condition; the predominant and distinctive character of this temperament, to the development and application of which law he destines his work.

This he calls the fundamental law, admitting at the same time infinite shades of it; as it would be wrong to suppose that men devoted to intellectual occupations do not participate more or less in those varieties of constitution described by physiologists. Predominance of the nervous system may, and in fact does, connect itself with all the known forms of temperament, though there be characters peculiar to each of these forms. Thus when this predominance occurs in bilious and melancholic temperament, it presents effects quite different from those occurring in the lymphatic temperament.

Our author here remarks that, notwithstanding the contrary opinion of several physiologists, both ancient and modern, the nervous apparatus may possess great activity, at the same time that the muscular system may have acquired very marked development. It is well known that that prince of

philosophers Plato* was famous for his square shoulders, and a vigorous constitution. Similar instances of active sensibility and muscular vigour combined, may be found among the moderns, for instance, Leonardo de Vinci, Buffon, Gluck and Mirabeau. It must be admitted, however, that this happy coincidence very rarely occurs.

This want of correspondence between the motive and the sensitive powers is more especially remarked in certain vital actions. Contractility, instead of moderating and balancing nervous action, becomes on the contrary subordinate to it. The sensibility in excess seizes on the muscles of animal life; it sometimes increases their action in an extraordinary manner when it becomes exalted; thus we see anger doubles and trebles the ordinary strength of individuals; at other times it stuns and paralyzes these same muscles. Another effect of the same cause is, that the muscular fibre becoming more debilitated, is at length ready to contract on the slightest nervous excitement. Hence that extraordinary tendency to spasms, convulsions, and irregular contraction of muscles, whether of the voluntary class or not, so often observed in nervous or irritable individuals. The movements of such persons are in general impetuous, their gestures quick and abrupt; but it is in the muscles of the face the effects of these involuntary contractions are principally to be seen, especially when they are excited. Several distinguished men have exhibited these spasmodic symptoms. The Emperor Peter I. was subject to a kind of tic, which, however, did not frequently recur, but when it did, it affected his eyes, and his entire countenance, so as to render it terrific. Napoleon was subject to an *involuntary* movement of the right shoulder, and at the same time another movement of the mouth from left to right, when under great excitement. In such a constitution contractility is no longer confined to its natural limits, it is debilitated and incapable of acting according to the normal impressions of sensibility its action being almost always irregular, whilst sensibility, augmented and exalted, predominates over all the functions of the system.

On the Effects of this Law on the Physique.—The first and most striking consequence of such an organic conformation is, that, he who has received it from nature, experiences a more keen feeling of existence than other men. He sees much, for he feels much. Great *affectibility*, which is the distinctive sign of this organization, is observed chiefly among poets and artists. Every thing strikes, every thing excites them, every thing is depicted to them with force and feeling. This characteristic facility of emotion and exaltation soon imparts to the whole system a mobility and acceleration in the vital acts, which cause the slightest impression to affect instantaneously the entire economy. There exists, in fact, a focus of life and action, the intense irradiations of which extend to all points of the organism. Salvator Rosa says that a painter is *all spirit, all bile, and all fire*, nor is this language as metaphorical as one might suppose.

It would be wrong to suppose that this vital energy was restricted to the brain itself exclusively. The nervous system is *one*, and consequently the

* He was called Plato from *πλατύς*, broad, in consequence of the great *breadth* of his shoulders.

phenomena connected with it, are referrible to the parts which compose it, according to the order of their functions. Quick, and clear perceptions, rapidity of conception, require the perfection of all the nervous branches and fibrils. Exquisite delicacy of sensation demands *à priori*, exquisite sensibility of the nerves. A rich imagination, often depends on a happy and tenacious memory, which itself requires in the peripheric nervous organs an extreme readiness to be affected. The delicate and exquisite feeling of the poet and the artist resides in the nerves, as well as in the brain. So that it is not the latter organ alone which predominates in the temperament now under consideration, but the entire sensitive system. If the visceral nervous apparatus re-acts, the brain is strongly excited; if the re-action commences from the brain, the sensitive powers at once become electrified.

It is now easy to see why this temperament is so mobile, and so readily affected; one might call it a sonorous instrument, which vibrates on the least touch, and by the slightest excitement. It has been well compared to the *Eolian harp*, which sounds on the slightest breath. The privileged persons to whose lot such a temperament has fallen, feel more joy, more annoyance, more love, more dislike, more transport, more ardour, more passions, more good and evil, and more enthusiasm, than beings endowed with an inferior organization. In the chances of human destiny, a lot has been assigned to them replete with enjoyments and pains; this explains why all that life contains of pleasures and cares, of sweetness and of bitterness, seems reserved for them; how it is that they are at one and the same time the weak and the strong among men, the favourites of Heaven, the idols of their own age and of posterity, and yet, too often, the unfortunates of this world. The fact is, it is because they are more men than other men, either for good or evil. If the degree of perfection of the nervous system indicates the degree of perfection in the animal scale, it is certain that there exists in certain beings eminently endowed with sensibility something above the rest of mortals. The physiological pre-eminence is the principle of the intellectual, and consequently of the social pre-eminence. It has been said that great men are the aristocracy of their species, it is true; but the fact has only been asserted; the object of our author is to establish the validity of the claim.

This superiority, however, is well counterbalanced. Why, is it, asks our author, that Nature has impressed the seal of humanity, viz. imperfection, on this her master-piece? Two causes, he says, counterbalance these immense advantages. The first is, that the excessive vitality now under consideration, having its source in nervous power, is, like it, variable, irregular, and transitory. Such a state, far from sustaining, consumes and destroys life. There is energy, no doubt, and organic tension; but it is by convulsive starts it shows itself. Such individuals deluded by a certain factitious vigour, fancy themselves strong because they are excited; they know not that there is merely an unequal distribution of nervous power, and sometimes a spasmodic rigidity of the muscles. And as a proof that such is the case, do we not see that such a state lasts but a short time, that it is immediately followed by a *collapse* exactly proportioned to the degree of previous excitement. The delicate structure of men pre-eminently endowed with sensibility could not support this organic super-excitement if continued for any time. Every thing in it seems to evince an antipathy to mere flesh and

matter. The man most poetically organised, is in truth devoid of material strength.

The second cause of the deterioration of the *nervous* constitution is the more or less rapid diminution of contractility. We know that it is the nice adjustment of the different movements, and the exact balancing of the sensitive and motive powers that constitute the stability of vital energy. But no such thing is to be found in the constitution now before us. We do not mean to say that the excitement is, generally speaking, always uniform in the animal system; we know it varies more or less in different organs; but in a healthy and well-constituted body the equilibrium in the organic actions is soon restored according to a generally observed law. If however the nervous apparatus have acquired an extreme preponderance, this law no longer holds; the motive powers are degraded and debilitated, when the sensations are too vivid, too rapid, and too diversified and numerous.

Weakness or nullity of the contractile action of the tissues is felt in all the functions of the economy; the muscular system more especially falls into a progressive state of debility, which is always proportioned to the increase of action in the nervous apparatus, more especially if the individual devote himself to a sedentary life. The muscles become pale and diminished in size; the cohesion of their fibres is no longer the same; they often become atrophied; hence organic re-action becomes totally impossible. Nor is it to be imagined that the external muscles of animal life only are thus debilitated, those of internal and organic life share in this debilitating influence; a circumstance attended with the most disastrous consequences to the several important functions.

Every one must have observed, and sometimes with envy, the easy and rapid digestion of robust men, especially when they feel little, and think still less. It is evident here that not only nature is not drawn off by the brain from the great process of alimentary elaboration, but that the accomplishment of this act is accelerated by the powerful contractions of the stomach, intestines, diaphragm and abdominal muscles. Another advantage of this muscularity is that of retaining the food in the stomach for a sufficient time in order that it may there undergo adequate elaboration. The fibrillary oscillations of the muscular planes of the digestive apparatus, that which constitutes the intestinal peristaltic motion, more especially contribute to render the digestion complete; but these muscular strata are always pale, and attenuated, and sometimes scarcely exist at all in very nervous persons. The diaphragm, that powerful and active muscle, so necessary to the internal organs, also loses its contractile property, nor does any thing contribute more powerfully to produce that languor of the viscera observable in sedentary persons. This explains the connexions of several phenomena. On the one hand, we have painful and laborious digestion, hence badly elaborated chyle, impoverished blood, imperfect nutrition, the losses of the system not repaired, and great prostration: on the other hand, the appetite is either altogether gone or becomes fanciful, the sensibility of the stomach is irregular or depraved, and a permanent state of irritability or atony in the digestive passages. Besides it is observed that the biliary secretion is altered in its quantity and in the quality of its products. The liver, sometimes gorged with black and stagnant blood, often participates in this morbid state; it becomes sensitive and painful; it re-acts on the stomach, and the

concurrent affections of both are the ground-work of many pathological phenomena whose influence is soon felt on the morale.

Constipation, that daily torment of sedentary persons, and more especially of literary men, and such like, is not a mere *echauffement*, as is commonly said; when of long standing, it is evidently to be attributed to *muscular atony* of the intestinal canal. *Defecation*, a function so important to health, is effected only by the simultaneous action of the large intestine, the diaphragm, and the abdominal muscles. Is it not evident then, that muscular power alone is called into action in the exercise of this function? *Flatulence*, moreover, which is so annoying a symptom of bad digestion, is decidedly owing to a defect of vigorous contractility in the digestive system. The abdomen becomes tense and swollen, the debilitated organs contained in it being inordinately distended by the intestinal gases.

This diminution of contractility, and the aberrations of the nervous power, likewise influence the circulation. Witness the palpitations of the heart, and the irregular movements of this organ so frequent in irritable and nervous persons. The circulation is sometimes slow, sometimes rapid, occasionally suddenly interrupted, but always unequal, and rarely presents in this temperament a calm and regular rhythm. Sensibility, and consequently the sensations and various emotions, have too powerful, too direct an influence on the heart for it to be otherwise. The imagination, always active, and rarely confined within the narrow limits of the necessary, the real, and the possible, is every moment disturbing the system. It is said that Madame de Staël, in her youth, could not look at a person of distinction without feeling violent beatings of the heart; at so early a period was her state of health changed.

This deficiency of contractile vigour in the circulatory apparatus, accounts for a phenomenon, which always astonishes even medical men; namely, the slowness and weakness of the pulse of sensitive persons, more especially observable when they are not in a state of agitation. Napoleon's pulse is said to have been but forty-five per minute; moreover, the heart's contractility was so little marked in him, that the action of this organ could scarcely be felt on applying the hand to the chest, even before the occurrence of that embonpoint into which he fell in later years.

It happens, however, that the circulation occasionally seems to increase its activity without any known cause. There is then what physicians call a *nervous pulse*, an appellation as just as it is true. This pulse characterises mere nervous excitement of the circulation. So true is this, that experienced practitioners are extremely cautious, in this case, in bleeding largely if the subject be weakly, experience having taught them that this increase of action was but apparent.

This singularity of the circulation, joined to diminished contractility of the heart and vessels, and consequent diminution of the velocity of the blood even from its very outset, produces another phenomenon which must not be overlooked, and that is, the unequal distribution of this fluid. The head, abdomen, and principal viscera, are sometimes in a state of plethora, whilst the blood cannot reach the surface and extremities without difficulty. Projected with but little force by the heart, circulating slowly, either from want of energy in the *vis a tergo*, or defect of tonicity in the capillary vessels, the blood seldom tarries on the exterior of the body. Thence, independently of

other causes, the frequency of visceral congestions, coldness of the extremities so distressing to studious and sedentary persons; thence, also, that habitual paleness so general indeed, that one of the fathers of the church calls it the bounteous complexion of great men.—*Pulchrum sublimium ciorum florem.* (S. Greg. Naz. orat. 14.)

The respiration equally participates in the effects of this organic state. If it be true that the entire mass of blood passes about twelve times an hour through the heart and lungs, the expansion of the thorax must be performed with promptitude, facility, and in suitable proportions. But the weak state of the muscles, the frequent spasmodic constriction of the chest, diminish the extent of this cavity. These constrictions sometimes produce so sudden a reflux of blood into the heart and lungs as to cause instant death. Thus Moliere died of pulmonary apoplexy. The effects, however, are generally more slow in developing themselves. The blood impeded in its course, stagnates in the pulmonary parenchyma, it presses on and gradually breaks down the meshes of this tissue; it separates and severs the fibres of the heart. Such is the origin of an infinite number of diseases, such as hæmoptysis, latent inflammations, aneurysms, &c. The oxygenation of this fluid is also imperfect, and venous plethora manifests itself at an early period with all its annoyances. Thus then it will, nay it must, be admitted, that the capacity of the thorax, the extent of respiration, a free and easy pulmonary circulation, regularity in the movement of the heart and arterial trunks, the reparation of the blood by the oxygen of the atmosphere, depend in a great measure on the development of muscular power.

Even the secretions and the functions of absorption are under the influence of contractility, as most of them become languid, when the energy of this property is diminished. With respect to animal heat and its various modifications, though the same causes cannot be assigned, still it must be evident that the calorific phenomena of the animal economy are closely and intimately connected with nervous action. Certain it is that, when there is an extreme predominance of this action, the animal heat has what may be called a special character; it is acrid, biting, and irregular; it is that *nervous heat*, remarkable more especially at a certain age, and widely different from that moist, mild, uniform heat, which generally attends the sanguineous temperament, and the period of youth.

On now passing to the external appearance of the body, we shall find the clearest signs of the exaggerated influence of sensibility over contractility. Every one feels anxious to see the person of a distinguished man—and yet how seldom does the reality correspond with the idea previously formed of him. The great man, on a close inspection, is seldom the man of his works; we look for him, if one may say so, when he is present: *adeo ut plerique, viso eo, querant famam, pauci interpretentur.* In such cases it is obvious that the material element having been consumed, the body presents but a mere shadow of an appearance, exhausted as it is by the violence of the sensations and activity of the mind. Most great men, with few exceptions, are small in stature and in appearance, more especially when they have attained a certain age. Their feeble arms announce that we must seek elsewhere for the cause of their power: in a word, all their exterior bears the imprint of a feeble organization, which has sadly changed, and which has suffered deeply. There sometimes may be observed, in such cases, an invincible re-

pugnance to exertion; whilst at other times the opposite feelings are evinced, but only by starts and temporarily. Sometimes the skin is devoid of colour and pale, the muscular fibre soft and flabby; whilst at other times the integuments are of a dark yellow colour, and the muscular fibre dry and somewhat tense; but it is rare to find, even in northern countries, that brightness of the physiognomy, that rosy tint, that character of freshness and of life, which indicate blooming health, and a full and free circulation. The body is often emaciated; yet sometimes we may observe extreme embonpoint at a very early period, a sure symptom of premature debility, as in the case of Gibbon, Fred. Schlegel, and Napoleon. Voltaire exhibited in his own person a striking ensemble of all the effects of an overwrought sensibility. "His emaciated form," as M. de Segur says, of him, "retraced to my mind his laborious works his piercing eye sparkled with genius and archness; one might see in them at one and the same time the tragic poet, the author of *Œdipus* and of *Mahomet*, the profound philosopher, the ingenious romancist, that mind which so closely observed and so well satirized the human race. His *attenuated* and *curved* body was but a thin, almost transparent covering, through which his very soul and genius seemed to appear."

Yet, as our author well observes, it is not always that the exterior of illustrious men indicates what they really are; one cannot always divine that mobile, that impassioned temperament under the fleshy covering which encompasses them. In no case is that well-known expression of *volcano covered with snow* more applicable than here. Bonaparte, who so long presided over the destinies of France, and Europe, exhibited nothing in his youth which could afford any indication of what he was to be. The same may be said of other illustrious men.

The physiognomy alone is often sufficient to discover the man, to whom Nature has been prodigal of her gifts. A broad, angular forehead, furrowed by the traces of grand and sublime thoughts, and eyes sparkling with fire, communicate to the countenance an animated expression, and surely with such a countenance, "marked," as Lavater says, "with the finger of God," the man cannot be a fool. And yet there are numerous exceptions to this law. Men of vast minds have been often observed to have but a very inexpressive physiognomy, as is evident in the case of Cromwell, Churchill Johnson, and more particularly Goldsmith.

We must not, therefore, suppose that the outward appearance of distinguished men corresponds exactly with their genius and intellectual endowments, though such a thing often happens. The long sustained activity of the sensitive powers, the continued course of reflection and meditation, ordinarily concentrate the vital powers in the brain, and internal functions, whereby the organs of motion, the source of physical power, gradually lose their size and energy; the body becomes debilitated, and no longer corresponds with the internal activity of the mind.

Such are the effects produced on the organization by the preponderance of the sensitive powers over the powers of motion.

Our author next proceeds to consider the effects of this law already stated on the intelligence in general, and commences with a remark of Pascal's, already referred to, pertinent to this subject; namely, that "we must not mistake ourselves; we are body as well as spirit." The study of man, he

says, considered in his phenomena of organization, proves that the moral sensibility is, as one might say, the consequence and reflection of organic sensibility. This principle cannot be invalidated, it is fully borne out and supported by anatomical research, by the laws of organization, by pathological phenomena, and by the lives of distinguished men. Thus, then, a very active and well-developed nervous system imparts to the mind a great power of manifestation. Every man in whom this apparatus, as well as the principal centres which compose it, predominate, presents to the observer an order of phenomena as extended as they are varied, in their succession as also in their modifications.

Without dwelling on particulars, we may first remark that sensibility, taken in its fullest development, presents—

- 1st. The capability of feeling;
- 2nd. The capability of knowing;
- 3rd. The capability of expression.

These three forms of one and the same power present striking differences in their action. The first is simply passive; there is merely a transmission of impressions; the second requires a certain activity of the brain; whilst the third, pre-eminently active, is the complement and acmé of intelligence; whence it is that it is much more rarely found in a high degree of perfection, than either of the other two. Most men feel, and even keenly, but the capability of giving expression to those feelings is given only to a very small number, to the few, *quos æquus amat Jupiter*. Some philosopher has said, "if we were obliged, when writing, fully to satisfy ourselves, I do not think we would write one page in our whole life. We admire the *Æneid*, and justly, and yet Virgil wished to burn it." Voltaire said that he should die without having written one piece to his own taste or satisfaction. Those who are most gifted in this respect, never express all what they feel and as they feel. Thus unfortunately genius is always cramped from the insufficiency of the means of expression. So that the same organic constitution, which renders the individual susceptible of strong emotions, is not always sufficient to enable him to present the image of them externally. The man of genius lives and dies, tormented with the inability to produce the type of ideal perfection which he feels. Eternally confined and restricted by material possibilities, he is worried and worn out in his fruitless efforts to attain them. He desires to bathe in the waves of celestial light, but he sees these waves for ever retiring from him. So that in the arts of the imagination the most difficult point is not to think or to invent, but to embody those thoughts, so as that they may strike and captivate. Still organic sensibility is the prime basis of genius and talent, as it is there we must seek for the first element of sentiment and inspiration. From this sensibility that electric spark is given off, which arouses and inflames the ideas, thoughts, and passions. "Those germs of eloquence which reside and ferment in the bottom of the soul, and afterwards dart forth in such rapid flashes; that powerful, enrapturing eloquence, which electrifies from heart to heart the inert crowd, and raises it, as Jupiter raised the gods, those thoughts of fire, those animated words, which heat the imagination and subdue the understanding, are, after all, but the impetuous and ardent movements of a privileged and strongly stimulated sensibility."

Thus the action of the nervous apparatus is constantly represented to our

eyes. This action is so marked in the great moral perturbations, that it influences the play of the other functions. Thus the conditions of the system being no longer in due proportion, all the springs and departments of life participate in this activity of the nervous system. It is remarkable also, that the metaphorical language of all nations represents with exactness and precision the effects produced on the æconomy by an exalted sensibility. "The blood freezes, the eyes sparkle, the heart burns, we shake and tremble with fear or hope; we are pale with terror, swollen with pride, panting with desire, &c." In a word, the organic disturbances and the intellectual emotions are perfectly proportioned, evidently because their source or origin is identical.

The second part of the work is devoted to the subject of what may be called pathological physiology, or the phenomena of life in the state of disease, and commences with the—

Predisposing or General Causes of Diseases of Persons devoted to intellectual Labour.—The first of these causes set down by our author is a delicate, mobile, impressible organisation, where the feeling of life is almost always exalted, where the sympathies are rapid, active, and multiplied; a cerebral system constantly kept in a state of permanent erethism by extra-normal and disturbing excitations. The next predisposing cause is the deficiency, or, at least, the progressive diminution of contractility; so that the individual loses the power of re-action, that is, the faculty of effectually repelling or neutralising the injurious action of several modifying agents. This, he says, is the fundamental character of this constitution, as has been already shown.

The third predisposing cause of disease in persons of this constitution is the unequal distribution of the vital and sensitive forces. If in such individuals some of the organs are in a state of perpetual action, other organs are condemned to a state of almost absolute inactivity. The hurried and abnormal action of innervation further presents a character of irregularity which is opposed to the equilibrium of the vital acts. The portion of nervous power which appertains to the functions of digestion, nutrition, circulation, &c. is for the most part directed to the mind, and to its organ, the brain. Some organs have a superfluous supply, while others do not receive enough; whence the organic relations necessary for the maintenance of health are actually destroyed. We next come to consider the—

External or Secondary Causes.—And the first stated is *sedentary life*—the second, *the want of pure air*—third, *prolonged and repeated watchings*—fourth, *certain positions or postures* of the body when at study—fifth, *the retention of urine and of the feces*—sixth, *errors in diet* seventh, *solitude*—eighth, *eccentric habits*. The influence of the first of these causes in the production of bad health is universally acknowledged—nor will that of the second, viz. the want of fresh air frequently renewed, be denied by many. The author here ridicules the poet who attempts to sing the beauties of Nature and the delights of rural life, while he at the same time inhabits some dirty narrow street or court from whence he scarcely ever emerges—and the painter, who attempts to paint *Aurora opening with roseate fingers the portals of the East*, though he scarcely ever sees the sun rise for whole

months together. The mischievous effects of prolonged and repeated watching will scarcely be questioned. It, on the one hand, deprives the body of rest, over-excites the brain's action, augments the enormous wasting of the nervous principle, occasions sanguineous congestion in the head; and, on the other hand, it prevents the due reparation of the vital powers, or at least causes such reparation to be imperfect. The brain is so excited on such occasions, that oftentimes, when the exhausted thinker gives up his study and retires to rest, sleep flies his eyelids; the excitement still continues, and repose comes not. The state of cerebral tension, so desirable for the production and combination of ideas, still continues, notwithstanding all his efforts to diminish it; and, should sleep come at length, it is restless and disturbed, and recruits but imperfectly the exhausted strength. With respect to the position usually assumed by sedentary persons when at study, we may remark that, besides the curvature of the spine so often observable in such persons, such position interferes very much with the circulation of the blood, favours abdominal congestions, compresses the liver and stomach, and injures the functions of these organs. When the head is deeply involved and occupied in meditation, the other organs in vain appeal to the brain, to apprise it of their condition and warn it of their wants; the sensation is either wholly absent, or very slight. The brain is at work, the ideas flow on, the pen runs rapidly over the paper, and the individual defers to another time the business of eating, drinking, emptying the bowels, &c. What is the result of this? Debility of stomach, pulmonary congestions, catarrh and calculi of the bladder, obstinate constipation, &c.; in a word, a crowd of diseases depending on the individual constitution. The errors and deviations in diet to which literary men are occasionally liable; the alternate privations and excesses endured and indulged in by them, are well known. On this we shall only remark that, what is moderation in an ordinary man of the world, becomes excess in the man of study, whose extreme organic sensibility requires the strictest care. With respect to the next cause, scil. *solitude*, it is well known what charms this has for studious persons, charms to which people of the world are downright strangers. There is, however, considerable caution necessary to guard against the effect of this indulgence. The perpetual convergence of the vital movements towards the head, the uninterrupted activity of the brain, that force of thought, and series of ideas, reasonings, and inductions, which keep the brain in, as it were, a constant state of erection, distress, and harass beyond measure the springs of the œconomy. To sacrifice the flesh to the spirit may no doubt be good for fame, but it is always ruin to health. External impressions or distinctions have, on the contrary, the effect of preventing the mischievous effects of too long-continued solitude: they interrupt those disastrous concentrations of mind, distribute the vital forces equally, and impart to the circulation a uniform motion.

With respect to *eccentric habits* as a cause of disease, he cites several instances of literary men, who paid the forfeit of health and life for their indulgence in them. One of the instances, Bourdelin, an eminent physician, was so carried away by the allurements of study, that, wishing to devote a portion of the night to it, he gorged himself with coffee during the day, and then took opium, when he wished to have some sleep. The consequence was, a premature death. Among the other eccentricities of literary

men he mentions the inordinate use of snuff and tobacco. Other individuals have been known to plunge their feet into cold water for the purpose of determining a rush of blood to the head, and of thereby exciting the powers of the mind. It is well known that certain faculties of the mind, as memory, are much increased during delirium, the paroxysms of fever, and other affections which determine more blood than usual to the head. Intoxication has been found to increase the energy of the intellectual faculties, and to revive the memory. We believe it is Mr. Combe who mentions the case of a porter, who, in a state of drunkenness, left the parcel he was employed to carry at the wrong house, and when sober, could not recollect what he had done with it. The next time, however, he became drunk, he recollected perfectly where he had left it. The author of the "Confessions of an English Opium Eater," observes, "that wine, up to a certain point, rather tends to steady the intellect, and that a few glasses rather advantageously affected his own." This, of course, shows that whatever cause produces an increased afflux of blood to the head has the effect also of heightening the intellectual powers: it shows further, and more generally, that the varying states of the organisation have a powerful influence on the intellectual and moral faculties. We must, however, remember that, to affect the mind beneficially, to increase its energy and render such energy permanent, it is indispensably necessary to give constant attention to the agents that act on the body, and to take care that they injure not the mind by too much excitement of the physical system, nor prevent the proper development of its powers by too little; for wine and all other stimuli, though they may for a while give increased energy to the intellect, ultimately depress and weaken it. In concluding this portion of our analysis we shall only remark, what indeed we have already said, that these secondary causes of disease in deep thinkers have but a relative influence, their intensity being directly proportioned to the physical powers of the individual on whom they act.

Our author next proceeds to consider the *organs more especially affected by excessive intellectual exertion*. If, he says, there be a positive fact in pathology, it is, that all the causes capable of producing irritation and inflammation, commence by exciting and increasing sensibility. This pathological principle we remember to have seen strikingly and most satisfactorily illustrated in Dr. Billing's work.* The propagation of nervous irritation is extremely remarkable in the sensitive constitution now under consideration. It is then on the nervous system, generally and primarily, that all the causes of disease act. Now, when this system has acquired an exclusive and unnatural predominance, when the œconomy is, as one may say, saturated with irritability, it is clear that all the organs which it pervades must be in a morbid state, that is, must be extremely disposed to pathological affections. This is precisely what takes place in several artists, men of letters, statesmen, &c. devoted to the engrossing and tyrannical occupations of the mind. There are, however, certain organs more especially disposed to the action of those causes, and to which the reader's attention is now called. And first,

* First Principles of Medicine, by A. Billing, M. D.

The Brain.—The indisputable supremacy of this organ is the same under all the modifications which the economy may undergo; it is in fact always the first power of organic association. But here this superiority, and the dangers consequent on it, are increased by the excessive activity to which the organ is subjected. It is certainly in the brain and in its acts, that we must seek the source of happiness, the instrument of the indescribable pleasures and inconceivable delights of those men who live solely by thought; unfortunately too, it is here we must seek the true *antrium mortis*, the origin of those evils to which they are exposed. If we but take into consideration the high importance of the functions of the brain, the extent of its relations, the energy and diversity of its sympathetic connexions, we shall no longer feel surprised at the number, the variety, or severity of those diseases which are occasioned by its extreme and incessant excitation. The integrity of its functions forms the basis of health; without such integrity all is wrong. It may here be observed, that there exists many, very many shades in the changes produced in the encephalon, shades oftentimes inappreciable; for we judge and recognise only the extreme cases. It may be readily conceived that incessant meditation and exertion of the mind, which stretch and strain the springs of thought, absorb life and devour it by little and little, constantly keeping the cerebral powers in a state of super-excitement, must ultimately determine an inflammatory *molimen*, or else a state of general debility, which is sure to produce serious changes in the organ.

Now these changes are sometimes slow, sometimes rapid. Latent irritations, slow chronic inflammations, partial congestions, softening of several points of the cerebral substance, frequently develop themselves only by equivocal symptoms of morbid excitement; as the evil advances, the accompanying phenomena clearly manifest the cause, but the time for remedying this state is now gone by. The circumstances of temperament, age, &c. obviously influence the cerebral changes which occur. Young persons are more liable to inflammations of the membranes; aged persons, in whom the venous plethora predominates, frequently suffer organic lesions, congestions, ruptures of the vessels of this viscus, ramollissement, &c. In all however, the pathological affections of the brain are always of a particular serious character, by reason of the intense and incessant excitements which this organ undergoes. The moral sensibility, also, as well as the physical apparatus, acquires an extraordinary increase of activity. If it be true that, in civilized men, the imagination centuples the causes and results of diseases, what must be the effect which this imagination produces in men who concentrate their existence in the exercise of the intellectual faculties! One of the principal effects of the continued tension of the brain is to weaken all the organs more or less dependent on it, by depriving them of a part of the nervous influx necessary to their action. How true that saying of the distinguished physician of Catherine de Medicis, Fernel:—*A capite fluit omne malum*.

The organ most exposed, perhaps, to this privation is the *stomach*: debility of the digestive system seems in a manner peculiar to illustrious men. Some have even gone to the ridiculous extent of estimating a man's genius by the state of his stomach. We must however, acknowledge the truth of Tissot's assertion, that "the man who thinks most, digests worst, ceteris paribus, and that he who thinks least is the man who digests best." Daj'

experience, and the history of distinguished men, afford abundant proofs of the truth of this assertion. Some, however, attribute this delicacy of stomach in profound thinkers to their sedentary life; that this may in part account for the phenomenon we admit; that it will not account for the matter perfectly, is evident from the good digestive powers possessed by women, artisans, and others who also lead sedentary lives.

Napoleon, whose astonishing activity of mind surprised his contemporaries, had, on the contrary, a very susceptible and irritable stomach. Our author has already shewn, that when sensibility predominates, contractility diminishes; and this occurs more especially with respect to the digestive apparatus, the tonic and contractile power of which is not always proportioned to its sensibility; the consequence of this is, that the debility of the stomach now in question is always accompanied with nervous irritation of this organ. To this we may add, that the continued excitement of the brain has a direct and immediate influence on the stomach. It is well known that a strong exertion of mind, sudden news, agreeable or otherwise, at once disturbs digestion, suspends the appetite, and throws the digestive organs into an almost morbid state of languor, and as every thing is linked and connected in the system, such a state, being continued for a length of time, reacts on the other organs. When the act of digestion is interfered with and retarded; when chylification is tedious, or incomplete, it is evident that such imperfect elaboration of the chyle will introduce into the system nothing but impoverished blood, and that its nutrition will be essentially altered. The body then becomes weaker and weaker; the flesh becomes devoid of life; the tissues without consistence, whilst the sensibility increases in proportion, and the nervous irritability becomes more developed. Improve, however, the digestion, let the nutrition be made more perfect, and then the blood becomes pure and rich, the body soon becomes strengthened, the sensibility, both physical and moral, remains within due limits. Thus we see the sphere of the stomach's activity is very extended, independently of its connexions with the nervous plexuses surrounding it; whence it is that the epigastrium is one of the principal points of concentration of the vital influences. In this sense it was we are to suppose that Wepfer called this viscus *præses systematis nervosi*. Amatus, a Portuguese physician, it was, who said that a bad stomach follows profound thinkers as faithfully as the shadow follows the body.

Next to the stomach, our author sets down the *liver* as one of the organs most frequently modified in its functions, and even in its structure, in men of studious, and sedentary habits. The predominating venous plethora existing in the abdomen, the complicated structure of this viscus, as ascertained by the recent valuable researches of Kiernan, researches by the way not tending to gratify mere anatomical curiosity, but calculated to afford sound practical indications in treating the disease of this viscus, the close sympathies subsisting between this viscus and the stomach through the ganglionic system, its connexion also with the brain, all these considerations at once account for the frequency of lesions of this organ, its engorgements and tumefactions, its inflammations, sometimes of a slow, chronic character, and sometimes rapid and fatal. History tells us that the poet Racine died of an abscess of the liver which was neglected, or mistaken for some other affection. The importance of a healthy secretion of bile, depending as it does on a healthy state of this organ, is obvious. Another effect of hepatic

disturbance or disease, by interfering with the abdominal circulation, is hæmorrhoids, that scourge of studious and sedentary persons.

Next to the liver, the *urinary organs* appear to be the part of the system most affected in literary persons—and next, the senses of *hearing* and of *sight*.

Our author, after enumerating the vital organs generally affected in studious men, next proceeds to enumerate the *diseases*, at least the principal diseases, to which these persons are liable. In this enumeration he follows the order of the different organs, and accordingly begins with *affections of the brain*. These, he remarks, sometimes come on rapidly, and explode, as in cerebral inflammations and brain fevers; whilst the effects of incessant mental toil are at other times slow. Apoplexy itself, to which so many profound thinkers fall victims, presents various modifications. Before the person gets the fatal stroke, how often has the brain been excited, strained, and outraged! how many times have *rushes* of blood to the head, squalls of heat in the face, dull pains and sense of weight in the frontal region, temporary dimness, violent arterial pulsations in the temporal region, and restless sleep, clearly indicated sanguineous repletion, and cerebral excitement beyond what was natural. These effects, however, pass away; they are forgotten; they return, and the delicate structure of the brain is soon broken up. The author here enumerates a list of distinguished men, great intellectual labourers, who fell victims to apoplexy; or some other disease of the brain. Among the rest he mentions Swift, Petrarch, Copernicus, Malpighi, Richardson, Spallanzani, Monge, Cibanis, Corvisart, and Sir Walter Scott. A slight attack of this affection has been called by Ménége *un brevet de retneue de mort*; that is, as we may render it, *Death's bond of security*. Napoleon, who dreaded apoplexy, one day asked Corvisart, his first physician, for some information respecting this disease. "Sire," replied Corvisart, "apoplexy is always dangerous, but it is preceded by certain symptoms. Nature seldom strikes the blow without giving warning. A first attack, which is almost always slight, is a *summons without costs* (sommation sans frais;) a second a *summons with costs* (— avec frais;) but a third, is an *execution on the person* (prise de corps.)" Corvisart himself afforded a melancholy proof of the truth of his assertion.

Our author endeavours to explain the gradual action of the causes of this disease. The permanent excitements of the brain at first increase its energy, or activity, in fact, its *vitality*. This excess of action, when repeated, occasions every time an afflux of blood to this organ; the stimulations then become congestional. At first these congestions disappear more or less completely, the brain is freed, and the equilibrium is restored. Afterwards the forced dilatations of the vessels become such that the congestions disappear but imperfectly; this gives rise to symptoms not, however, of a very alarming nature. At a still later period, when age advances, and the venous system increases in size, and the cerebral veins have a tendency to become varicose, at the same time that the arteries diminish in diameter, these congestions become more permanent. This state of engorgement increases rapidly, if there be aneurysm of the heart. From these morbid states arise coma, stupor, softening of the brain, tremors, paralysis, and finally, apoplexy in all its degrees.

It sometimes happens, after prolonged study and watching, that the actor

of the brain becomes totally suspended. The painful torpor of the nervous apparatus which is the result of this, renders the individual incapable of connecting two ideas, in fact, thought ceases altogether.

Now, while the vital action is thus extreme in the encephalon, the digestive apparatus becomes altogether languid. The abdominal circulation which is naturally not very active, especially in the branches of the vena portæ, so happily called by some one *porta malorum*, now becomes very much impeded. The afflux of arterial blood towards the upper parts of the body; the sedentary life, the habitual flexion of the trunk, so frequent among studious persons, contribute still more to increase the evil. During this time the stomach loses its contractile power, a distressing sensibility becomes developed in this viscus, and the digestive function becomes more and more impaired. When one becomes excessively attentive to his digestive powers, when the stomach is delicate, scrupulous, and requires some particular kind of food, when the appetite is irregular, when flatulence exists with sour eructations, a feeling of burning heat in the throat, swelling and heat in the epigastrium during the act of digestion, our precautions must be redoubled. It is certain that then the alimentary tube is threatening some serious disease, which sooner or later will explode. Inflammation of the liver and stomach, in all its stages, jaundice, gastralgia, spontaneous perforations, nervous colics, frequent vomiting, scirrhus pylorus, cancerous affections, &c., are the results of the morbid principle now under consideration. And, making the same observation here as when speaking of the brain, we find that slight diseases of the digestive apparatus, such as loss of appetite, painful digestion, flatulence, are shades of organic and functional changes which often lead to lesions no longer to be remedied by art. Though *constipation* is not, strictly speaking, a disease, it occurs so frequently in the class of persons we are now considering, it is the latent or obvious cause of so many diseases, that itself may well be considered one. Two causes produce it, heat and unnatural dryness of the intestinal canal, or else debility and atony of this same viscus. The latter cause is remarkable enough in aged persons. It would be superfluous to enumerate all the consequences produced by obstinate constipation. We shall mention merely the principal of them; these are, inflammation of the intestinal canal, degeneration of tissue, hæmorrhoids, fistula in ano, &c.

Calculi in the kidneys and bladder.—This is a frequent attendant on sedentary and studious persons—Erasmus, Luther, Bossuet, Buffon, were victims to this visitation. *Hypochondriasis—melancholy—monomania*, cum multis aliis, may be added to the list.

We have now presented our readers with an analysis of the physiological and pathological parts of this certainly extraordinary work. Many of our author's views are novel; many of them are interesting, and perhaps truth will oblige us to say, some of them border very closely on what our German friends would call the transcendental philosophy. In our sketch we have endeavoured to present the author's opinions in as tangible and matter-of-fact a form as we could, though we fear much we have not been as successful in our efforts to materialize and give a body to the abstractions of his mind, as he has been in giving a soul to what ordinary men would consider the objects of mere sense. The English reader, however, accustomed as he is to plain, common-sense facts and reasonings, when he finds any thing

here not very intelligible, must be content to take *omne ignotum pro magifico*, or must do as the school-master mentioned by Quintilian, who, whenever he found any thing unintelligible in the literary compositions of his scholars, encouragingly exclaimed, *tanto melius, ipse non intelligo!* With the therapeutical part of the work we must decline meddling; all that is good in it we have ourselves, and with the rest we can very well dispense.

SPINAL DISEASES: WITH AN IMPROVED PLAN OF TREATMENT Including what are commonly called **NERVOUS COMPLAINTS**, and numerous Examples, from upwards of 150 Cases. By *John Hey Robertson, M. D.* Octavo, pp. 160. Glasgow and London. 1841.

THE object of this volume is confined to three classes of spinal affections. **POTT'S MALADY**, disease of the spinal bones, ending in pressure on the spinal cord, with or without paralysis of the parts below. 2d. Lateral or serpentine curvature. 3d. Disordered condition of the spinal nerves. This last is the most common of all, and is often dependent on the lateral or angular curvature; but frequently idiopathic. It is unnecessary for us to take any notice of the anatomy, symptoms, or pathology, of the first two classes of spinal affection. The third, or functional derangement of the spinal nerves occupies chiefly our author's attention. He dislikes the term "spinal irritation," as conveying no very definite meaning to his mind. He seems to think that, in all cases, there is some change of structure, though the eye or the scalpel be unable to detect it.

"Disordered action may be going on in some distant part, and this propagated up the course of the nerve, and being long-continued, may induce a condition of the nerve which will again produce or keep up this disordered action, no alteration all the while taking place in its physical condition. This I can conceive, but am of opinion, that it is far more likely, that long-continued derangement at the extremity of a nerve will end in producing actual alteration of structure in the nerve, although it may be to an extent that the eye, assisted by the knife, cannot, in our present state of knowledge, detect, or even comprehend.

In other cases again, where the mischief originates in the nerve or its coats, and is propagated to its extremity, it is highly probable, that it is induced by some changes in the nerve itself, or its sheath, amounting to a degree of sub-acute inflammation. This I am also led to believe, from the facility with which the disease can be removed.

Again, in by far the great majority of those cases, the complaint is brought on by actual pressure upon a spinal nerve. Long-continued position, by keeping the column bent one way, presses unduly on the nerve, produces pain at its extremity, and by-and-by in its course. This pressure upon one part of a nerve, will act as pressure does in any other part of the body,—interrupt the natural action of the nerve, gall and irritate, until it becomes inflamed, remaining so until the cause be removed, and the effects produced subdued by the usual means.

When the spine has been allowed to recover its proper position, and no actual

permanent curvature has taken place, the pain and distress produced by pressure on some of the nerves very frequently remains,—the mere removal of the cause has not been followed by the cessation of the effects; another analogical evidence that inflammatory action, or something approaching to it, has been induced in the nerve, or its sheath. Were there no other effect produced than mere interruption to the passage of the nervous fluid, the nerve should be restored to its original or sound condition on the removal of the pressure." 23.

The cure of lateral curvature must necessarily be slow; but the effects of pressure on the nerves, Dr. R. has always been able to relieve with certainty and celerity.

The third chapter of the work is dedicated to the symptomatology of spinal disorder, whether it consists in "disturbed action," irritation, or inflammation. The symptoms are numerous, and often of the most opposite kind. There is usually pain or numbness in some part of the chest or back, often about the sternum—*nervousness*—head-aches—sensation of weight or dragging, in the neck, back, or shoulders—a feeling of pricking or tingling in the limbs. Sometimes there is a sense of coldness—there is a sense of *sleeping* in the arms and legs—occasional coldness in the back, shoulders, neck, or head—oppressed breathing—tightness across the chest—palpitation—weakness of back—inability to walk far—or to sit upright or to either side, without pain. Pressure on the spine, with or without a hot sponge, will generally occasion some pain or tenderness. Cough, and pain in the chest, are not unusual, and sometimes raise apprehensions of phthisis.

"Partial or occasional blindness, or irritability of the eyes to light. Inability to lie on one side, or to bend to one side, without severe pain. Eructations, with irritability of the stomach, and vomiting.

Irritability of the bladder, with nephritic or gravelly pains stretching down the thighs. Constipation, and pains in the bowels. Pain in the right side, in the region of the liver, and also of the stomach.

Those functions peculiar to females frequently absent, or very irregular, and usually attended with severe pains in the lower part of the back. Limbs puffy, or swollen. Colour of the skin bad, generally dead white, or slightly tending to a faint yellow.

There is sometimes numbness, dullness, or paralysis of a part; sometimes the patient trips or stumbles on attempting to walk. There may be curvature, or projection of some part of the spine." 27.

The foregoing symptoms will not all appear in any case, but some of them in all cases.

CHAP. IV. is on the causes of these spinal affections. *Position* at school, or under tuition at home, is a fertile cause among the wealthier classes of society—and is a severe tax on opulence. The over-exertion of the brain, in modern education, is still more injurious than awkward or long-continued bad posture. In fact, the causes are numerous which lead to modern spinal affections, and many of them are totally beyond our cognizance. Among the middle and lower classes of society, the causes are equally numerous, though often of a diametrically opposite kind.

We must pass over several chapters of the work which, although they convey useful hints to the non medical public, add nothing to the informa-

tion of the professional reader. The tenth chapter opens the subject of treatment. The following passage contains the pith of the chapter.

"A patient may have imperfect or diseased action of the Spinal nerves, either with or without lateral or serpentine curvature of the spine.

There is very little difference in the mode of relief, in the first instance, in either case. The distressing symptoms produced in curvature by pressure upon the spinal nerves, are quite capable of being relieved, without waiting for the removal, or even alleviation of the curvature. As the bend is usually gradual, mere curvature would produce no inconvenience to the patient beyond personal deformity, were it not for the injury done to the spinal nerves.

I do not know that the means I have been in the habit of adopting with so much advantage, in the treatment of these affections, differ much from those in use by the profession, except, perhaps, in the time and mode of employing them.

Cupping, particularly what is called 'Dry-Cupping,' from there being no knife used, nor blood drawn, leeches, blistering, acupuncture, friction,—simple and medicated,—properly directed exercises, and sometimes a bandage of the simplest construction, comprise about the entire of my treatment, employed and varied, of course, according to the circumstances of each case. I have now and then been compelled to have recourse to a small eschar, not in simple disturbed function of the spinal nerves, but where this was complicated with deep-seated disease, involving alteration in the structure of the parts. An issue in mere curvature, whether to remedy the curve, or the inconveniences produced by it, is the very height of folly; and yet I have more than once met with patients who had them. Issues cannot be of the slightest service to the curvature, and are not at all necessary for the symptoms induced by it." 69.

It is evident that, among these remedies, "dry-cupping" is the heroic one—and its heroism appears to depend chiefly on the manner, the sleight of hand, with which the operation is performed. Dr. R. seems to unite the "*suaviter in modo*" with the "*fortiter in re*," for he assures us that, while he is enabled to draw up the integuments so as almost to half-fill the cup, the accompanying sensation is absolutely pleasurable.* The preference which he gives to dry-cupping over the scarificator is founded on several considerations—the chief of which is the saving of blood, where the individual is weakly, which is too often the case.

The mode in which Dr. R. applies the cups is not materially different from the method used some 40 or 50 years ago.

"A little piece of folded absorbent paper is dipped into alcohol—brandy, or pyroxilic spirit, keeping the end by which you hold the paper dry. Apply this to the flame of a candle, and let it drop to the bottom of the glass to be used. Turpentine does very well, but has the inconvenience of producing much smoke when burned. The dry portion of the paper adheres to the wetted or damp bottom of the glass, and when the latter is inverted and applied to the skin, the flame remains at the point farthest from the skin, and causes no irritation from its presence. The cup adheres instantly, and may be removed easily by inserting the finger-nail under its edge, to permit the access of air. The process of merely rarefying the air by the torch, in the way done by professed cuppers, is excellent when blood is to be obtained, but besides, to be well done requiring a degree of manual dexterity not likely to be possessed in general by members of the profession, does not, even when done in the best manner, produce an

* "It is borne with the strongest expressions of pleasure."

effect powerful enough for my purpose in dry-cupping. Their way might now and then be adopted, especially if the patient were very thin, or the part one upon which a glass of the proper shape could not easily sit. The method described, though not perhaps the most elegant, is by far the most powerful way of producing sudden determination towards the surface, and alteration of the internal action of a part. I can, in almost any instance, in a favourable part of the body, fill the glass or tumbler nigh half-full of integument and muscle, and in a few instances, have seen the blood sweat through the pores of a healthy but fine skin. Large glasses are to be preferred to small where they can be used: besides being more valuable as remedial agents, they are much less inconvenient to the patient. On the chest, back, belly, or hip, where the cups have plenty of space, two or more should be put on at once, and of a size much larger than those in common use." 73.

We have long thought that dry-cupping, and counter-irritation generally, have been too much neglected in this country, where polypharmacy has been nurtured by the vile mode of remuneration by bill of drugs, like the attorney's "bill of costs."

Dr. R. does not use the common glasses—and his are of such a size as to hold from six to sixteen ounces of blood; but, "instead of the usual plain round mouths, similar to that of a tumbler or wine-glass, I have it cut out at the sides, so as to make the *mouth* of the glass, a segment, more or less small, of a large circle, both sides being alike." Dr. R. considers this a great improvement, as it enables him to apply the glasses to various localities where the plain and circular cups could not be adapted. Instead of strong and expensive glasses, Dr. R. gets a few strong tumblers, of different sizes, which are shaped under his eye by the glass-cutter.

"When properly done, I have a high opinion of acupuncture, and shall give one or two, *out of a number* of cases in which it was successful. It seems most useful in those instances where the pain (without curvature,) *shifts from one part of the back to another*. How it acts it is difficult to say. Some suppose its action to be electric or galvanic, and this, for various reasons, is highly probable. On removing the needles, I have invariably observed that they were coloured deep blue, from the point upwards as far as they had been inserted, and even exhibited a degree of polarity." 85.

The work is illustrated by some 50 cases, of which we can only find room for one.

"Mrs. ———, aged twenty-four, married four years, and has one child; has been ill for five years, and complains of difficulty of breathing, so bad as to make her unable to speak, until she has rested, after having walked but a very short distance: severe beating of the heart; general weakness, great degree of nervousness; pain in the breast; severe leucorrhœa; digestion bad; bowels constipated; has been under treatment for a long time, and latterly at the sea-coast, by advice of her medical attendant.

On examining, find she is wearing a pair of steel corsets, of great strength and weight, which press upon and gall the parts under the left arm-pit, and about the right shoulder-blade. She has worn them for three years. I found she had lateral curvature towards the right side, between the shoulders, and reversed below in the loins. Her right shoulder is about two inches higher up than her left, and it was for this, she says, she was ordered the steel corsets, viz. 'to keep her left shoulder up;' hence they were made to fit pretty well up to her left arm-pit. On inquiring carefully into the progress of her complaint, particularly the elevation of one shoulder, and depression of the other; it was

admitted that during that time, and wearing those cumbrous contrivances that were to 'keep her left shoulder up,' she has been getting constantly worse. The curvature, so far from diminishing, or remaining stationary, has been steadily increasing. She has been ailing all the while, and is now compelled to apply for relief from the consequences.

The 2d, 3d, 6th, and 12th dorsal vertebræ, I found very painful to pressure, over the spinous process, but could not discover pain at the sides, viz. over transverse processes.

The dry cups were applied to the places, and small oiled blisters thereafter. Liquor Potassæ, and Ammoniated Tincture of Valerian, internally twice a day.

18th August.—It is just a week to-day since I last saw her, and the difficulty of breathing, increased action of heart, pain in the breast, and feeling of weakness, are all relieved; bowels still constipated; find the 6th dorsal vertebræ still slightly sore to pressure, and a feeling of pain is complained of in lower part of neck, when she leans forward to read. Applied the dry cups to the spot on neck, and the 6th dorsal vertebra. Opening medicine.

27th August.—Difficulty of breathing, and beating of heart, still more diminished; pain of neck gone; bowels yet disposed to constipation; advised moderate use of light dumb-bells, and medicated friction to back.

4th September.—Has been to the country for the last eight days, but does not think herself any better in consequence; re-examined back, and found 2d, 3d, 11th and 12th dorsal vertebræ slightly painful to pressure, over spinous processes; re-applied the larger cups repeatedly, and placed small blisters on these parts. Continue Ammoniated Tincture of Valerian.

17th September.—Much better, but has caught cold, and has cough and expectoration. Inhalation, and a cough mixture, quickly removed these. The Leucorrhœa was the first relieved, and then altogether removed, by astringent washes, and the use of the precipitated carbonate of iron, made by double decomposition at the moment it was to be used, the materials being given to the patient in separate phials.

25th October.—Has no cough now; to-day walked some miles from the country to see me; felt a little fatigued merely, and says that when she first consulted me, two months ago, she could not walk any distance, however short, without the greatest distress.

Back all sound to pressure, except on the 2d and 3d dorsal; used two dry cups, and a blister, to be put on at bed-time, the size of a penny-piece.

She has been so well since, as not to have required any treatment. She has left off the use of her absurd steel machine, and taken my simple light bandage in its stead." 104.

Dr. Robertson's work is essentially popular, and not, we imagine, designed at all for the profession. We have, therefore, taken as long a notice of it as could reasonably be expected, and we have no doubt that it will prove very useful in the channels through which it will chiefly circulate.

MALTA: CONSIDERED WITH REFERENCE TO ITS ELIGIBILITY AS A PLACE OF RESIDENCE FOR INVALIDS. Addressed to the Members of the Medical Profession. By *Francis Sankey, M. D.*

First impressions, especially if strong, and on young minds, are rarely ex-

punged by those of later years, however erroneous may be the first, or correct the subsequent ones. This may be the case in respect to writers on Malta. Byron designated it as a "MILITARY HOTHOUSE," probably under the influence of momentary spleen or misanthropy. Hennen, the sober and philosophic topographer—our old and esteemed friend—was not more than mortal, and had his prejudices and predilections, when he wrote about "the implacable heat;" and "the showers of mud" in the Island of Malta. In respect to temperature, the highest range of the thermometer in the two hottest months, July and August, is 82° , whilst in the eight months that include October and May, the range is from 53° to 70° .

The island lies nearly in the centre of the Mediterranean, and almost within sight of Sicily. Although certain winds (the Siroc) are occasionally uncomfortable, in the Summer months, their inconvenience has been greatly exaggerated. The surface of the island is undulating and does not present any hills higher than 600 feet above the level of the sea. There are neither woods nor marshes, and the orange and lemon plantations are enclosed within garden walls. The population is about 120,000 including the military. Valetta is a regular town, with wide and straight streets, crossing each other at right angles, and built on a small peninsula. The houses are commodious, the rooms large and lofty, provisions plentiful, and cheaper than in England. The inns are good and numerous. The thermometer does not vary more than five or six degrees during the twenty-four hours, from the end of September till the end of May, during which period the temperature is delightful—a complete Spring reigns in the Island. In February and March there are severe gusts of wind, which sweep freely over the Island; but are destitute of the keen cutting breezes that descend from the Alps or Appenines. The heat of the Summer, too, is moderated by cooling currents of air from the ocean, unobstructed by hills or forests. The effects of the Sirocco have been ridiculously magnified by Byron, and all who have written since his time. To it the fanciful ascribe all their morbid feelings; and the imprudent find a ready excuse for their indiscretions in the Siroc. In August and September this wind is often disagreeable, coming, as it does, both hot and humid from the south-east. In Africa it is a dry and hot wind, but becomes impregnated with moisture in its passage over the ocean. It seldom blows for more than a day, at one time, and in nervous people, causes languor and depression. In the Winter it is soft and balmy, and favourable to invalids with dry cough and bronchial irritation. The "showers of mud," described by Dr. Hennen, are merely the dust, which is sometimes rolled along by the wind, and which is occasionally united with aqueous moisture, as on the rode-sides in England. The slight sources of malaria in Dr. Hennen's time have been all dried up. There are no vegetable matters running into a state of decomposition, nor animal matters neither.

It appears from Major Tullouch's statistical reports, that Malta is not so healthy as Great Britain.

"This report is based on the deaths occurring in an average population of one hundred thousand people, compared with the same number in England. It is not just to ground such a statement on the deaths alone. The proper basis of the calculation would be the number of the sick; for such is the difference between the two countries, that a simple affection, which, in England, would

be cured in a few days, is allowed by the natives to degenerate into serious disease. The people cannot pay for good medical attendance, and are averse to taking any sort of medicine. They have not the means of changing a scanty and unwholesome diet for more nourishing aliment. The people in the country eat the coarsest description of food, bad bread, crude vegetables, olives, and inferior kinds of salt fish. Meat they seldom touch, and wine only on festival days: and then perhaps to excess. The long fasting of forty-four days in Lent, in addition to the generally unhealthy course of diet is another source of debility, and therefore, a predisposing cause of disease. From these circumstances, coupled with bad clothing and dirty habits, the people here have not sufficient stamina to support disease, so that, of an equal number of patients in England and Malta, a far greater proportion would recover in the former country. If due allowance be made for all the diseases which the inhabitants bring on, or continue on themselves, either by carelessness or necessity, there will not be found in the south of Europe a more healthy spot than this island. The mortality here, notwithstanding the causes above stated, cannot, in ordinary years, be calculated at so much as three per cent. The average number of deaths annually, according to the Statistical Report, for thirteen years, is 2,577, which, on an average population of 100,270, amounts to rather more than two and a half per cent." 13.

There is another error under the head of pectoral complaints. The Maltese practitioners apply the term consumption to "any and every wasting of the body from whatever cause it may arise;" even including the natural decay of old age. All surgical affections terminating by suppuration or hectic fever, are also classed under the head of phthisis! Thus the wife of a judge received a severe burn, and died of its effects. The case was returned consumption. It is stated that there is a greater mortality among the same number of troops in Malta than in England. This, however, may be attributed to other causes than climate alone. The facility of intoxication, and the propensity to that vice among soldiers and sailors, must greatly increase the mortality. The Fencible regiment of Maltese shows only a mortality of little more than one per cent. per annum, and this low degree can only be accounted for by the sober habits of the native soldiers. Civilians do not suffer near so much on the Island as the troops.

"I do not, of course, pretend to affirm, that the climate and air of Malta possess any curative virtue for those persons, whose organic diseases have placed them beyond the power of recovery elsewhere. Where tubercular disease has proceeded so far as to make extensive ravages in the pulmonary tissue, it is ever useless and cruel to send such unhappy persons far from their homes and sympathizing friends, to die among strangers in a foreign land.

At the present day it is pretty generally understood by medical practitioners, that such removal is mischievous, both from the fatigue attending the journey, and chiefly that the change to a warmer latitude, by increasing the irritability of the hectic sufferer, and augmenting the nocturnal perspirations, would farther reduce the strength of the patient, and hasten the catastrophe. Yet sometimes the medical attendant trusts that disease has not committed the ravages he suspects, or he is induced to yield to the wishes and solicitations of the patient, whose hope of recovery often appears commensurate with the fatal tendency of his complaint.

But to persons who are suffering from constitutional debility, who, either from conformation or accidental circumstances, are strongly predisposed to pulmonary disease, or are in any state of cachexia, unattended with considerable organic lesion, a residence in a southern latitude, for three or four months dur-

ing the Winter is highly useful; and I think Malta offers advantages to such persons, equal to those of any other place; amongst those advantages we may enumerate,—the voyage by sea, when land travelling would be too fatiguing: the facility of conveyance from any part of the surrounding Continents; the novelty of the scene, so different from any thing which Europe can offer: the living under the British flag, in a British possession: the many comforts that may be commanded: the power of obtaining the assistance of English medical practitioners residents in the island, as well as those of the staff of the army, or navy; and a climate where, on every day of the year, for some hours of that day, exercise in the open air, or gentle boat exercise, may be taken, so essential to the re-establishment of health." 20.

One other advantage is the facility of removal from Malta, should the climate disagree. Almost every year there are steamers leaving Malta for England, France, Italy, &c.

"The residence of her majesty the Queen Dowager Adelaide, during the Winter of 1838-9, has tended greatly to give a deserved notoriety to this island; and her liberality has added a handsome church to its public buildings." 21.

Upon the whole, we think it not improbable that Malta will become a rather favourable Winter asylum for English invalids. In the Summer, they can easily land at Genoa or Nice—skirt the Italian lakes—cross the Alps—traverse Switzerland—and descend the Rhine to their native soil.

MEDICAL AND PHYSIOLOGICAL COMMENTARIES. By *Martyn Paine*, M. D. A. M. 2 vols. 8vo. New York. London, 1840.

To sit down for the purpose of reviewing a work consisting of two closely printed octavo volumes, containing about sixteen hundred pages, requires no small degree of moral courage. But when the contents are devoted to the consideration of the most abstruse, metaphysical, pathological, and physiological subjects; every page abounding with references to, or quotations from, authors of every age, and of every country, the difficulty is greatly increased; and we approach the subject, if not with fear and trembling, at least rather as a task than a pleasure. Such is the character of the work now before us: and it certainly is a favourable specimen of the laborious research and elaborate study of the writer. It reminds us of the German school of authorship: or of such books in our own language as Burton's *Anatomy of Melancholy*; and puts to shame those medical authors who favor the world with the results of their experience, observation, and acquirements, without indicating always the sources, whence they have derived their knowledge.

For our own parts, however, we candidly confess that we have a predilection for this latter class of writers: we are practical men, and we heartily subscribe to the maxim Dr. Paine appears to quote with approbation, "*Ars medica tota observationibus.*"

We cannot, however, compliment him on adhering to his text, or carry-

ing out the precept there laid down. His work, indeed, savours much more of the lamp than of the dissecting-room; and of the study rather than the bedside of the sick. It will be a lasting monument of the author's profound and multifarious reading; and if a man have patience to wade through his pages, it will enable him to talk, and to dispute, on medical and physiological subjects; but we much question whether it will advance his knowledge as a practical man, or increase his perceptive powers in the detection and treatment of disease.

The opinion Lord Byron had of the Book to which we have above alluded as a literary work, coincides exactly with our own, respecting this as a medical one. "Burton's Anatomy of Melancholy," said he, "is the most useful book for a man who wishes to acquire the reputation of being well read with the least trouble. But among the medley of quotations the superficial reader must take care, or his intricacies will bewilder him. If, however, he has the patience to go through his volumes, he will be more improved for literary conversation than by the perusal of any twenty books with which I am acquainted: at least in the English language."

In attempting an analysis of Dr. Paine's work, it will be in vain for us, among the contrariety of opinions and doctrines brought forward, to give more than a summary of his own views: indeed to do this will often be no easy task. His style is so verbose, and so interlarded with quotations, that it becomes bewildering, and we are frequently at a loss to know his meaning. We shall endeavour, however, to lay before our readers such brief practical comments and reflections, as a careful perusal has left on our minds, and by this means we trust we shall do good service to many, who, like ourselves, have but little leisure for the discussion of these recondite and speculative opinions. Indeed, we apprehend that elaborate works of this kind meet with but few readers; and we fear that the circulation of Dr. Paine's book will but ill repay the labour bestowed on its compilation. The taste of the age (in this country at least) is against them: besides, men in usual practice have no leisure for the perusal of abstract and controversial subjects, and the time of students may commonly be better employed, in anatomical and experimental researches, and in clinical observations. We do not make these observations from any disrespect to the author; or with any wish to detract from his great research, and peculiar merits: but they are in accordance with our own views, for we have been accustomed in our studies to follow the advice of that most accurate observer, Baglivi, whose writings are a perfect model both to imitate and to follow.

"In lectione librorum nunquam proficies, nisi prius in legendo methodum tibi comparaveris. Lectio librorum tumultuaria, inconsiderata & inexplibili quadam aviditate facta, mentem hebetat. Commodè, considerata & Doctorum virorum conversatione, atque experimentorum usu conjuncta, eandem facundat ac perficit. Et sicuti nimia ciborum ingurgitatio salubriorum valetudinem non avertit, ita nec inexplibilis librorum lectio solidiorem doctrinam."*

The first section is devoted to the consideration of the vital powers. The author after criticising the definitions of Bichat, Lawrence, Müller, &c. &c.

* Baglivi, Prax. Med. Caput 7. De Præpostera librorum lectione.

propounds his own views, which, so far as we are able to collect them, are the following. Matter is endowed with certain "vital forces," distinct from its essence—which govern its phenomena, and which are susceptible of impressions from certain stimuli.

These stimuli are the remote causes of vital actions—whilst the "vital forces" in connexion with the organised matter, are the immediate source of the phenomena.

What is life? Life, philosophically considered, is a cause, and productive of results which constitute life in a popular sense. The functions are merely the results of the vital forces operating upon organised matter and called into action by certain stimuli. Life, therefore, virtually consists in the co-existence of these forces and a peculiar substratum. The soul exists in the fetus; but like the senses is not displayed until certain external causes call its existence into activity. The resistance of the egg and seed to putrefaction, depends upon the presence of the "forces of life:" their activity, or growth, is produced by the peculiar stimuli acting on those forces. The elements of organisation are held in combination by the action of the vital forces, on the withdrawal of which they separate into their ultimate elements.

The conclusions he draws are—that life consists in the integrity of the vital forces associated with organised matter—that the vital actions are only the results of the foregoing conditions—that the vital properties are essentially distinct from organised matter itself, or any chemical or physical agency;—and that organic structure may exist entire without the properties of life—though the former is necessary to the existence of the latter.

In the second section the author treats with great severity the opinions of those philosophers who attempt to explain the phenomena of life on chemical or other analogous principles, and whom he terms the chemical physiologists. In a strain of irony, and in a spirit of unfair criticism, he reviews their writings, and by means of garbled and insulated extracts—by confounding them with their own conflicting opinions—and by not unfrequently misapprehending or mis-stating their views—he soon demolishes the doctrines (or, according to Dr. Paine, chimeras,) of such small fry as Prout, Philip, Davy, Bostock, Elliotson, Müller, et id genus omne. After thus laying prostrate names which we, in our simplicity, have almost held sacred in this department of science, we naturally expected to be enlightened by our author's own views, but, alas! we are left still in the dark.

We have the perpetual repetition of "vital forces," "vital powers," "properties," and such terms; but what do they explain, or to what practical purpose do they lead? They tend, in our opinion, to *mislead*, and to *mystify*, rather than to enlighten; and will be just as useful to physiology, as the researches of Sir Isaac Newton would have been to astronomy, had his powerful mind been employed in discovering the causes of gravitation instead of investigating its laws.

No one, we apprehend, doubts the existence of "vital forces," "properties," or something inherent in living beings, totally distinct from chemistry, galvanism, or other analogous powers, and which can neither be produced nor imitated by any of these agencies. But in a secondary and

practical point of view, there is no doubt, that many of the processes of life may be modified by chemical and mechanical causes—and consequently these sciences frequently lend their aid, not only in the explanation, but also in the treatment of various diseases and malformations incident to living beings.

The third section is occupied partly in defining the essence of life, and partly in criticising the opinions and definitions of others.

"The essential principle of life," says our author, "is a simple substance, something analogous to, but distinct from, the soul itself, something intermediate betwixt spirit and matter, or in animals betwixt instinct and matter."

Assuming Scripture as a ground of argument, he says—

"It is manifest that man was completed in his structure without life before he became endowed with a soul, and that the act which created his soul bestowed also the vital forces. One appears to be as much a new creation, distinct from the forces of dead matter as the other. When man was already perfected in his structure, he was without life. But by the act of breathing into his nostrils, his peculiar physical life and his soul were simultaneously created, and such is their companionship whilst life continues, that some philosophers have considered them identical. And how perfectly in harmony is all this with the exit of man. His soul and the vital forces leave the corporeal frame simultaneously: nor will either be restored but by another act of creative energy." 88.

He then triumphantly shews that—

"The vital forces cannot be generated by matter, since upon them organisation depends: nor by the forces of physics, since these are perfectly incapable of restoring the structure, or even its elementary composition after the organised matter is decomposed, or of re-animating the machine after decomposition has begun." 92.

We need scarcely point out the incongruity of these passages: in the latter the author states that the vital forces are the *cause* of organisation, whereas in the former it is shewn that man was *perfected* in his structure or organisation *before* he was endowed with the vital forces: nor need we advert to the irreverent expression that "the soul will not be restored, but by another act of creative energy." We do not mean to insinuate that in this and similar passages, the author denies the immortality of the soul; but his language on this—the creation of man, and other sacred subjects, is so vague, and often so contradictory, that we fear doubts may be engendered in the minds of many of his readers.

Discrepancies of the kind to which we allude, may be found in almost every page of this Essay. For instance, in the passages we have quoted above, the author is compelled to have recourse to Divine agency for the creation of his vital forces; yet, in a note, he says that "the whole work of creation was miraculous, and therefore is not connected by any analogies with the subsequent processes of Nature;" and in page 10, he states—

"Some able writers have lately appeared, who, admitting that life consists of a certain series of phenomena peculiar to organised matter, and having endeavoured to explode the entire doctrine which regards the forces upon which those phenomena have been supposed to depend—have proceeded so far as to affirm that the Deity himself is the immediate cause of all the phenomena of Nature.

The latter construction has arisen, in part, from the irresistible conviction that actions of all kinds require a certain power for their development. With this class of reasoners it will be difficult to argue, since their doctrine is a matter of faith and not of reason. There is no common ground between us."

Again, page 86, he accuses Müller of materialism, "in part from speculating on a subject so far beyond all human comprehension as the endowment of a fœtus with a rational, immaterial and immortal soul." Whilst, in page 13, he argues on the same point himself.

"Since, therefore, the fœtus, or a new-born infant, has as much a soul as man, we argue, that if the child sees, hears, tastes, smells and feels, as soon as it enters the world—the properties on which those functions depend, had a full existence in the fœtal state at the time of its birth."

The conclusions Dr. Paine appears to draw from his reasonings on these speculative points are—1st. That life in its essential principle is a simple substance. 2ndly. That it is distinct from all physical, chemical, or other forces, and that its phenomena cannot be induced or explained by them. And, 3rdly, that there is a sort of *tertium quid*, a middle matter termed sympathy, which forms the connecting link between the vital forces and organised matter, and which receives external impressions and communicates them to these vital forces.

The appendix is devoted to an examination of the theories of electricity, galvanism, &c. as to their being analogous to nervous influence, or in any way explaining its phenomena; which the author denies in toto, considering the nervous influence to depend on a cause quite independent of them.

The next essay is on the philosophy of blood-letting, and extends over 300 closely printed pages. We will endeavour to give a summary of the author's views; but we confess, amidst the obscurity which pervades his essay, we can neither discover his meaning in many parts, nor his object in writing it at all. He professes to detect errors in almost every writer on the subject, and the theory which he propounds is something like the following.

The first effect of blood-letting is a contraction of the bloodvessels; this is brought about not from its diminishing the quantity of blood, but from its action on the vital forces. In leeching the contraction commences in the extreme vessels, and is propagated by sympathy—by continuity, or by remote consent, along the whole chain of vessels to the heart. The peculiar efficacy of leeching seems also to depend on some specific impression on the *vires vitæ*, which no other mode of abstracting blood can exactly accomplish: and one of the advantages is the effect kept up on the vital forces of the capillaries, and thence conveyed to the vascular system at large: hence, no matter how far the leeches are applied from the affected parts, the impression is propagated to it by continuity or remote consent.

This doctrine of the vital forces, and the contraction of vessels, explains, the author thinks, some anomalies in blood-letting:—for instance, less effect is produced, he says, by depletion in phrenitis than in pneumonia, because the sympathy between vessels of the same order is so great, that when those in a state of inflammation, refuse to contract, the whole series throughout the body is maintained in a correspondent state. In phrenitis—

"The contraction of the cerebral vessels is partly prevented by the peculiarly modified state of their vital powers, and in part by the tendency of that modification to prevent a contraction of the corresponding vessels in other parts. The peculiarity of this modification arises from the nervous influence which is exercised upon the vessels of the brain in a state of inflammation: and is thus distinguished from the condition of the vital forces which affects the small vessels when the seat of inflammation is in other parts."

Syncope, according to our author's doctrine, is a complex phenomenon. It is induced by the powerful influence of the vital forces of the capillaries, and the consequent universal contraction of the vessels; occasioning an influx of blood to the heart, and thus embarrassing its action. There is also an impression on the brain, which is produced by a diminished supply of blood and by the sympathetic re-action.

"If, however, moral causes produce syncope, the primary affection of the brain consists only in some specific impression on its properties; and that its functions are only suspended by the failure of the heart's action. We infer also that the influence of the brain upon the heart, so far from being 'diminished,' is actually increased. This modification of the cerebral powers is constantly mistaken, as it appears to us, for a failure of functions." 176.

Blood-letting, then operates invariably through the medium of the vital forces; and its phenomena cannot be explained on any mechanical or other principle. This is the fundamental doctrine of the author. It would be useless to follow him through his prolix reasonings and details—his endless criticisms and quotations from other authors—and his perpetual complaints that their practice is warped and influenced by their theories. "*Mutato nomine de te fabula narratur.*"

His theory, as it appears to us, is mere assumption; unsupported either by experiments or facts. His reasonings, therefore, can be pertinently addressed to those only, who yield their assent to his assumption, nor will even they, we apprehend, generally admit his conclusions. But a controvertist trifles with his readers, when he grounds his arguments on the assumption of a theory which is denied by many, and doubted by more. Besides, to what practical purpose does this theory lead? it neither simplifies our knowledge of the powerful remedy it professes to explain, nor points out the cases proper for its adoption. It leaves, indeed, unanswered the very question with which he commences his inquiry. "How does blood-letting operate? How are diseased vessels unloaded, in some instances by the abstraction of small quantities of blood; when in other cases, under apparently the same circumstances, a great extent only of the remedy will effect the same results?" P. 121. Indeed nothing can shew the inconclusiveness as well as uselessness of his researches so clearly as his own admission.

"As to the assumption," says he, "of any particular symptom or circumstance as a rule for blood-letting, we hold it to be indefensible, and shall endeavour to prove it so in subsequent sections of this essay." P. 237.

We shall, however, best enable our readers to form their own opinion of the style and value of Dr. Paine's comments on other authors, and of his own practical information, by selecting a few of his criticisms on some of the more recent writers on blood-letting.

Dr. Wardrop says, "The leading symptom by which the constitutional

disturbance demanding venesection is indicated, will be found in the quality of the pulse."

Our authors states, "There is scarcely any symptom, per se, that is less to be trusted to than the pulse, unless it possess certain positive characters." P. 233.

Again, page 237, "We think that very few will agree with Dr. Wardrop that 'there is usually no appearance of the buffy coat in blood removed from persons affected with violent inflammations, until the latter stage of the disease, and at the very period when the further abstraction of blood would be pernicious.'"

"On the contrary, indeed," Dr. Paine says, "we find in 99 of 100 such cases, that the buffy coat is presented at the *first* bleeding and has disappeared more or less when the further abstraction of blood would be pernicious."

"Again," Dr. Wardrop says, "in almost every case where venesection is necessary, there is present along with the disturbed action of the arterial system some local pain more or less severe." "Now this," says our author, "is notoriously not the case in very many instances of venous congestion, in many chronic inflammations, and often in severe cases of pneumonia; in all of which blood-letting may be indispensable." P. 237.

Dr. Arnott states "that it is a great modern improvement in the practice of the healing art in bleeding for the cure of inflammation, to take away the blood *as quickly as possible*; since intense inflammations of the brain, lungs, bowels, &c. are equally removed by faintness, whether it happens after the loss of ten ounces of blood, or of fifty." "This," says our author, "is a fallacy."

This quotation from Dr. Arnott is from his *Elements of Physics*, p. 470. Dr. Paine adds, in a significant note—"Hence too, appears the fallacy of applying the '*Elements of Physics*' to considerations of this nature.

In the same *ex cathedra* style Dr. Paine criticises the opinions of other writers. He thus concludes his strictures on Dr. Marshall Hall. "But the *most exceptionable* part of Dr. Hall's rules, as it appears to us, applies to the repetition of blood-letting." "If much blood has flowed," says Dr. Hall, "before incipient syncope has been induced, re-visit your patient *soon* and you will probably have to repeat the blood-letting, in consequence of the severity of the disease; especially if you were not called in early in the first instance. If, on the contrary, *little* blood has flowed, *neither does the disease require*, nor would the patient bear, farther general depletion."

We have made these quotations, which we might extend to any length, partly to exhibit the style of Dr. Paine's criticisms, and partly to give greater currency to the valuable suggestions which he so strongly reprobates. As we write for practical men, we would appeal to them whether the opinions laid down in the quotations from the three eminent writers above-named, are not consonant with their own experience. For our own parts, we consider these and similar passages interspersed through the writings of such men as Hall, Wardrop, and, we may add, of Sydenham, Heberden, &c. to constitute their peculiar interest and value. It is by recording observations

* On Blood-letting, p. 41.

made at the bedside of the sick, and verifying them by experience, that the science of practical medicine is to be advanced; and not, in our humble judgment, by framing theories and then making our practice subservient to them. Facts and observations are our landmarks: for diseases and their symptoms remain the same, although the theories which profess to account for them change with almost every writer. We do not now read Cullen and Darwin to know their theories—but to know their facts and their practical inferences. Dr. Paine's theory may or may not be true, bleeding may operate *only* "by producing its direct effects upon the vires vitæ of the capillaries by modifying their action;" or it may operate in some other way; but we wish to know in what cases of disease bleeding is proper: and if proper, in what way blood should be abstracted. This our author's theory does not teach. It can only, indeed, be acquired by our own observation, aided by the recorded experience of others. He is consequently the best practitioner who is the most accurate observer, and who has sagacity to profit by and to arrange recorded facts. Had we, indeed, a theory founded upon nature, that should bind together the scattered facts of medical knowledge—and converge, as it were, into one point of view the laws of life, it would contribute much to the interests of medical science. But theories framed to explain the causes and nature of disease, and the *modus operandi* of medical agents, have advanced, and probably will advance, but little the practice of medicine. They may assist us to explain some physiological facts, or the phenomena of some diseases; but the successful treatment of them must mainly be learnt in the school of experience.

Dr. Paine's experience may have been extensive; but the perusal of his work leads us to the conclusion that this practice is founded on theory rather than on observation. In every section of his essay, while he displays both industry of research and dexterity of applying quotations and references; he has at the same time, through eagerness to establish his favorite position, called into his service a number of remarks, many of which are greatly overstrained in their application, and others if strictly examined will be found to disserve his cause. Through the same anxiety to follow up his theoretic views, he advances opinions in various parts of his essay which if put in practice would, we think, prove highly dangerous. In page 337, he says, "We hold it (bloodletting) to be more important in infancy, under equal circumstances, than at any other age; and this ratio increases as we ascend to the hour of birth." In page 361, among the aphorisms with which he concludes his essay is the following.

"Blood-letting is equally safe at all periods of life, but is *most indispensable* in old age."

Now, we submit, that if Dr. Paine's practice had been guided by experience instead of theory, he would not have come to conclusions, and have made unqualified assertions so fraught with danger.

We do not deny that cases may occur in extreme infancy as well as in extreme old age which require bleeding; but these instances are very rare, and when they do arise, the greatest caution must be observed.

The same recklessness in recommending blood-letting pervades the work. In all the modifications of scrofula, tubercular consumption, erysipelas, &c. bleeding is the sheet-anchor; and although the author, having no guide

but his theory, is occasionally at a loss whether he shall bleed or not; yet instead of giving the patient the benefit of the doubt—he says, page 238, “If, after surveying the whole aspect of the case, we remain in doubt about the propriety of abstracting blood, we generally take out our lancet and bleed the patient.” He then adds, “We every where see victim after victim sacrificed to timid admonitions and worse example; whilst you and all of us know that it is a rare phenomenon that a patient is slain, seldom injured by the lancet.”

We are apprehensive that these phenomena will henceforth become much less rare if the less “timid admonitions” of this work be implicitly followed.

The next and concluding essay of the volume is on the humoral pathology, and extends over nearly 400 pages. It consists almost entirely of criticisms, quotations and references.

The author, in pursuance of his own views, regards the phenomena of disease, its causes and treatment, as resulting from his doctrine of the vital forces: hence he exposes, and attempts to controvert the opinions of all writers, from Galen downwards, who advocate the humoral pathology.

It would be vain to attempt, and useless were it possible, to give a regular analysis of this elaborate essay. The endless criticisms of the author elicit no useful information; and he not unfrequently perverts the opinions of writers, and even distorts their facts, if they militate against his preconceived views. On the other hand, he arrays on his side of the question as solidists or vitalists, men whose writings cannot be so fairly interpreted; and many living writers, we apprehend, will be surprised to find themselves in such company.

For instance, he designates this Journal as “that stable solidist *The Medico-Chirurgical Review*,” and adds, “we consider Dr. Johnson himself in all respects a solidist.” Now we need only appeal to our readers, whether this Journal has not invariably advocated the opposite doctrine, indeed we could refer to fifty passages in proof of our assertion were it necessary. *Ex uno disce omnes.*

The question at issue, as the author fairly states it, is this—“Whether foreign morbid causes and remedial agents, in their ordinary modes of operation, produce their primary effects upon the solids or upon the blood, and the latter become the cause of disease in the former; whether we have hereditary humors, as gout, scrofula, &c. &c.” We are satisfied with the answer of M. Andral to this question. “Physiology,” says he, “leads us to the conclusion, that every alteration of the solids must be succeeded by an alteration of the blood; just as every modification of the blood must be succeeded by a modification of the solids. Viewed in this light, there is no longer any meaning in the disputes between the solidists and the humoralists.”

This view of the matter, however, does not satisfy Dr. Paine. He is an exclusive; and will have no modified or half-and-half doctrines. He is a confirmed solidist; and demolishes with unsparing criticism hosts of authors whom he quotes, whose views militate against his own.

The second volume commences with the “Philosophy of Animal Heat.” The author reviews the opinions of those writers who explain the phenomena of animal heat on chemical principles. He shews clearly, we think, that

there are many anomalies that cannot be accounted for on the theory that animal heat results from respiration, and the changes induced on the blood by that process. His own views on this subject may be deduced from the outline of his doctrine of the vital forces we have above attempted to explain.

"The power of generating animal heat relates to the vital forces and to nothing else." Heat is secreted or eliminated through the united agencies of these powers from the blood, in the same manner as the bile or gastric juice. This is certainly a very plain and simple statement of the matter. But there is no great novelty in it. Hunter maintained the same opinion.

"It is most probable," says he, "that the power of generating heat in animals, arises from a principle so connected with life, that it can and does act independently of circulation, sensation and volition; and is that power which preserves and regulates the internal machine."* We apprehend that writers subsequent to Hunter, who ingeniously attempt to explain the phenomena of animal heat on chemical principles, admit all that he or our author does on the necessity of a primum mobile or vital force. But as this vital principle usually makes use of chemical or mechanical agents for its purposes, we may, by investigating the laws of these agencies, be assisted in explaining some of the phenomena of animal heat, and in modifying or controlling its force when unduly or morbidly excited or diminished.

It will be unnecessary to detain our readers with any extended remarks on the subsequent essays of this volume. The same views and reasonings are made use of in all. In the next, "On the Philosophy of Digestion," the author states, that "the gastric juice is a substance, *sui generis*, endowed with vital powers—that it can only be generated by a living stomach—that it cannot be imitated by art; and that through its agency alone digestion is performed." These are truisms which few, in the present state of our knowledge, will be hardy enough to controvert; yet, as in the case of animal heat, some will be disposed to think that the function of digestion may be improved or impaired by chemical agencies; which, if we understand Dr. Paine, he utterly denies.†

According to him, medical philosophy, and its practical application, have nothing to hope for from chemistry.

The appendix to this essay contains some sensible and well written remarks in opposition to the theory of spontaneous generation.

The succeeding essay is a review of the various theories of inflammation. All are rejected by our author; and his own, the vital theory, considered the only true one.

The next essay is on "The Philosophy of Venous Congestion." It is most elaborate; occupying more than half the volume. As it consists, however, mainly of quotations and criticisms, we shall not attempt to analyse or abridge it.

Two essays on the "Comparative Merits of the Hippocratic and Anato-

* Hunter's Observations on certain Parts of the Animal Economy, p. 91.

† For some interesting experiments on "Artificial Digestion" we beg to refer our readers to two essays by Professor Müller and Dr. Schwann, in the "Archiv. für Anatomie und Physiologie," for 1836.

mical Schools," and "On the Principal Writings of P. Ch. A. Louis, M. D." concludes the work.

In the brief sketch we have given of this very voluminous and erudite performance, we have endeavoured to lay before our readers the peculiar views and opinions of the author. Although we dissent from many of his conclusions—regret the paucity of his facts, and have been bewildered by his reasonings and arguments; (so much so as perhaps to lay ourselves under the imputation—"damnant quod non intelligunt,") yet we willingly award to him the merit of multifarious reading and research; and of untiring zeal in the support of his doctrines.



AN ACCOUNT OF THE NEW PROCESS FOR EMBALMING, AND OF PRESERVING ANATOMICAL PREPARATIONS, SPECIMENS OF NATURAL HISTORY, &c. Translated from the French of *M. Gannal*. By *R. Harlan*, M. D. Octavo, pp. 264. Philadelphia, 1840.

NEARLY one-half of the present volume is dedicated to an historical survey of the art of embalming among the ancients, especially the Egyptians, and more than half the remainder is taken up with the modern processes employed for preserving the lifeless human frame, which ought to be consigned to the grave or the flames. Over both these portions of the book we shall pass entirely, as quite useless (the first particularly) in a practical point of view. What care we whether the Egyptians pitched and bandaged up the stinking carcases of their friends, to preserve them for forty thousand years, till the spirit returned to animate the black mummy—or because the soul kept possession of the clay for a thousand years after death—or because they were unable to bury the dead during the periods of inundation—or to secure the remains of their defunct relations from the voracity of animals—or from motives of filial or parental affection—or, finally, to furnish important remedies against dangerous diseases—a mummy being a sovereign cure for various maladies.

Whatever was the motive for embalming human bodies, the practice was absurd, as well as superstitious. If it became universal and continued for a million or two of years, the earth would be covered with mummies, instead of living beings! Sepulture, indeed, is only an inferior evil of the same kind. Burning the dead, and thus resolving at once the constituents of the cadaver into its original elements, is the most philosophic process, and that which would entail less mischief, as well as expense, on the living survivors.

We see that *M. Gannal* has reserved for his own profit the secret of embalming bodies so as to keep them in a state as nearly as possible resembling life. We quarrel not with him for this piece of charlatannerie, since he has disclosed the process for preserving anatomical preparations. This is all we want with the whole "art and mystery" of embalming.

M. Gannal's memoir was presented to the Institute on the 4th of March, 1838, and a commission was appointed to examine and test it.

Meantime M. Serres placed a corpse at M. Gannal's disposal in La Pitié, which he bathed in a tub containing two pails of alum, two of common salt, and one of nitrate of potash. The subject appeared to be well preserved, on repeated examinations. At the end of six weeks it was opened, when the flesh and viscera were found in a state of preservation. On the 12th November, 1834, M. Orfila placed two bodies under our author's management. These were bathed in a similar liquid at ten degrees.* On the 2d December the commission examined them, and they were consigned to dissection. On the same day another subject was injected with eight quarts of the saline solution at ten degrees. At the end of December these three subjects were examined, and found to be in a good state of preservation; but it was remarked that the skin as well as the flesh had assumed slight appearances of decay, in respect to consistence and colour. The deep-seated organs remained nearly natural.

A commission named by the Academy examined these subjects, and demanded new experiments.

"Here it may be remarked that it required double the quantity of fatty matter for this, than for a fresh subject, and that the most delicate arterial net-work had been prepared by the injection.

These experiments, which lasted for half the month of May, satisfied me that an injection of ten or twelve degrees of density, and immersion of the body in a bath of the same liquid, will suffice for a preparation destined for ordinary anatomical purposes, and will allow of dissection after several months." 207.

The following extract from the second report of the Commissioners contains all that is necessary for insertion in this article:—

"From the series of experiments which we have just exposed, it results:

1. That a solution of alum, of salt, and of nitrate of potash, injected at ten degrees, answers for preserving bodies at a temperature below ten degrees of the thermometer; that, for a more elevated temperature, it is necessary to carry the density to twenty-five or thirty degrees, and immerse the subject in a liquid of ten or twelve degrees.

2. That it is preferable to employ the acetate of alumine, because it preserves better; as the skin experiences no alteration, and as the central organs remain *natural*, excepting the colour of the muscles which become bleached.

3. That the chloride of aluminium offers the same advantages.

4. That, in order to preserve parts of bodies which have not been injected, it is necessary to immerse them in a mixture of water, and of the acetate or chloride, marking five or six degrees.

But this part of the operation is transferred to the experiments which are to be undertaken on the preservation of objects of pathological anatomy.

Gentlemen, such are the series of experiments made by M. Gannal, since the first provisional report was presented to you.

The commission has attentively followed the new experiments; the results obtained, demonstrate that by M. Gannal's process bodies for dissection may be preserved, and the preservation prolonged beyond the term exacted by the most minute investigation.

* What does he mean by ten den degrees?

As we have already stated, the soluble salts with an aluminous base, offer this preservative method, without any danger in their use, and they can also be procured at a low price.

Their antiseptic properties are founded on their chemical action, which modifies animal substances either by depriving them of their water of composition, which determines their putrefaction, or in opposing themselves to its immediate action.

It is, then, only an act of justice rendered to M. Gannal, in considering his labour as an important service rendered to science and to humanity, and which may prove of great utility in anatomical explorations, and in legal medicine." 231.

Dr. Harlan, the translator, bears testimony, from occasional observation to the merits of M. Gannal's process; but thinks that, "he has, perhaps, over-rated the extent and importance of his discovery." This will, doubtless, be found to be the case, and it applies to all new discoveries and inventors.

ESSAYS AND HEADS OF LECTURES ON ANATOMY, PHYSIOLOGY, PATHOLOGY, AND SURGERY. By the late *Alexander Monro, Secundus* M.D.F.R.S.E. &c., upwards of Fifty Years Professor of Anatomy and Surgery in the University of Edingburgh. With a Memoir of his Life; and copious Notes explanatory of Modern Anatomy, Physiology, Pathology, and Practice. By his Son and Successor, Illustrated by Engravings Octavo, pp. 300. Whittaker & Co. London; MacLachlan and Stewart, Edingburgh; Fannin and Co. Dublin.

THIS is an able, agreeable, and useful volume; and cannot fail, we think, to experience a welcome reception from the profession. To the surviving pupils of the late Dr. Monro it will prove peculiarly acceptable; and will recall many interesting reminiscences of that illustrious teacher. Trained from his very boyhood to the important duties of the anatomical chair, under the eye of his father—the first Monro—who may justly be considered as the founder of the Edingburgh Medical School, and who, by his pre-eminent talents and reputation, was so well calculated to kindle both enthusiasm and emulation in the breast of his son, it is not to be wondered at that Dr. Monro, Secundus, should have displayed, at a very early age, what was looked upon as a natural aptitude for anatomical science. His long and brilliant subsequent career, and the indefatigable assiduity with which he cultivated anatomy, physiology, and pathology, for more than half a century, together with the important discoveries he achieved in these departments, have earned for him an imperishable reputation. It is undoubtedly true, and cannot be too extensively known, that Dr. Monro, Secundus, broached more of the physiology and pathology of his successors than they have been disposed to acknowledge, or have had candour to trace to the parent source. His lectures were a mine of public wealth, from which materials were borrowed by wholesale, and produced from time to time,

under a new garb, by writers, who contrived to occupy a large space in the public eye, and thus to reap a harvest of fame not their own. It would be invidious to pursue or illustrate this particular topic any farther. We shall merely content ourselves with saying, that it was high time for Dr. Monro—the present distinguished professor of anatomy in the University of Edinburgh—to come forward and vindicate, by the work before us, the just claims of his celebrated father. The task which he has thus undertaken, and which he has performed in a manner so creditable to himself, had become not only an act of filial duty, but an effort called for by honour and justice. He has been actuated by what Justinian so forcibly styles the “*Jus constans, et perpetua voluntas, suum cuique tribuendi*,” and has not only given, in the discharge of this duty, a most pleasing memorial of his eminent father, but has contributed an interesting and valuable volume to modern medical literature.

By a fortunate coincidence, Dr. Monro has been enabled to place before his readers an account, by most competent judges, of the very *first* course of lectures which his father delivered, in the year 1758; and also of his very *last* course, in the College-session of 1806-7. The former is from the pen of the celebrated Dr. Carmichael Smyth; and it is so interesting that we shall subjoin it at full length. The latter is supplied by Dr. Robertson of Northampton; to whom, by-the-bye, the volume is dedicated.

Letter from Dr. Carmichael Smyth to Dr. Monro, Tertius.

“Charlton, November 19th, 1817.

“Dear Sir,

I should be highly gratified could I imagine, that any observations of mine on the late Dr. Monro's career as a professor of anatomy, could contribute in the smallest degree to illustrate his character. But when I attended his lectures, I was too young, and too little acquainted with the subject, to judge or appreciate his merit. As it is, however, possible that, after a period of nearly sixty years, I may be the only one now alive who was present at his debut, I will, with much pleasure, state to you the impressions thus made upon me at the time, and which the lapse of half a century has not yet effaced. Dr. Monro, Primus, who had long filled the anatomical chair, with reputation to himself and advantage to his country, began the course of lectures in the autumn of the year 1758, and after delivering the history of anatomy, and some introductory lectures on the blood, and other general subjects, resigned his situation to his son; who, it must be acknowledged, from his father's great popularity as a public teacher, had an arduous duty to perform. He very soon convinced the public that he was equal to the task, and the students were far from regretting the change that had taken place.

Dr. Monro, Primus, had embraced the doctrine of Leeuwenhoeck respecting the blood, and taught it to the last. Your father's first lectures were employed in giving a complete refutation of this system, which was placed on the shelf for ever. He clearly proved, that the different parts of the blood were permanently and essentially distinct from each other, and entirely independent of any aggregation or combination of globules. The novelty of a doctrine of so much importance in all physiological and pathological reasoning, with the clear and luminous manner in which it was explained, operated like an electric shock on the audience, and gave him a degree of confidence, which I believe no young man ever had at starting, but which his talents were well calculated to support. The students perceived in the other parts of the anatomical course, the same

clearness of demonstration, acuteness of dissertation, and accuracy of reasoning, that they admired in his refutation of Leeuwenhoeck's system. They could not help observing, that he was complete master of his subject; but that he possessed in an eminent degree another talent no less necessary for a public teacher, the proper mode of communicating his own knowledge to others. Your father enjoyed likewise, when he entered upon his public duty as a professor of anatomy, a great advantage over all his predecessors, from the high improvements made at the time in anatomical preparations, particularly from the art of injecting the bloodvessels, and corroding the parts thus injected; by means of which, he was enabled to elucidate more completely than could formerly be done, their numerous ramifications and communications.

Your father enjoyed also a pre-eminence over most other teachers of anatomy, from the use he made of mathematical calculations or diagrams, to illustrate the effect of compound muscular action. He applied this particularly to the action of the intercostal muscles, shewing the advantage arising from their oblique course. His reasoning on this subject, with a diagram which I copied at the time, I have still in my possession. But the prominent feature of your father's anatomical course, and where he shone with no borrowed lustre, was his preparations and demonstrations of the lymphatic vessels. Whether he, or his celebrated cotemporary, Dr. William Hunter of London, is entitled to the praise of their first discovery, is a point still, I believe, undecided; and I am very far from having the presumption '*tantas componere lites.*' But whatever difference of opinion there may have been on this subject, there can be but one opinion respecting the high merits of both claims, and the just praise to which they are entitled, for the zeal and success with which the subject was prosecuted and illustrated by both of them.

The above observations, you will perceive, are entirely confined to the time I attended your father's lectures, which was from the Autumn 1758, for the four or five following years. His subsequent discoveries respecting the communication between the lateral ventricles of the brain—*bursæ mucosæ*, &c.—I leave to you and other professional gentlemen to explain and appreciate. But before I quit this subject, I have one more remark to make.

Your grandfather laid the true foundation of anatomy, and of his fame, in his accurate description of the bones; upon which your father has erected a trophy that must carry his name to the remotest ages, so long as the science of anatomy is cultivated among men.

Your's,

J. CARMICHAEL SMYTH."

(Pp. xiii.—xvi. Memoir.)

Dr. Monro, Secundus, lived to an advanced age, and continued the active duties, not only of his profession, but of the anatomical chair, till his seventy-fifth year. The infirmities inseparable from old age then coming upon him, the remainder of his honorable and useful life was necessarily passed in peaceful retirement. When he had reached his eightieth year, he was wont to become very drowsy after dinner. He also became subject to occasional headache and slight bleeding at the nose. These symptoms were the preludes to an attack of apoplexy; from which, by the unceasing attention of his friends, Dr. Rutherford and Mr. Bryce, he partially recovered. But the malady was not eradicated; his weakness gradually increased; and, after the lapse of four years, he expired, without suffering, on the 2nd of October, 1817, in the 85th year of his age.

Of his private virtues, which were on a par with his public talents, it is pleasing to speak. He was a man not only most indulgent and affectionate

in his family circle; but remarkable for general and active benevolence. He was ever ready to assist the poor with his purse and professional skill; he was a subscriber to all the charitable institutions; and took a conspicuous part in the management of the Royal Infirmary. We feel it to be a duty, no less than a pleasure, to record these traits of this great and good character, inasmuch as—

“The evil that men do lives after them;
The good is oft interred with their bones:”

and we are willing, as Journalists, to give historic permanency, as far as we can, to the virtues as well as the talents, for which Dr. Monro was conspicuous.

On the subject of his professional qualifications and demeanour, we shall give the testimony of a highly distinguished eye-witness—the late Dr. Gregory, of Edinburgh. We make no apology for the length of the extract; because it is a gem in its way, and is full of important instruction, especially to the junior portion of our readers. The portrait thus drawn by Dr. Gregory, is sketched with the hand of a master, and exhibits all the facility and power of that gifted individual.

“The late Dr. Monro, of Edinburgh, long, and most deservedly, enjoyed the highest eminence which any man of the medical profession ever attained in Scotland. As an able, active, and meritorious professor of anatomy and surgery, he was, for more than half a century, at the head of the great medical school of Edinburgh, and, for the greater part of that time, as a practical physician, he was unquestionably at the head of his profession in Edinburgh, and in Scotland: to many, even very distant parts of which he was often called, and from every part of which, as well as of England and Ireland, he was frequently consulted by letter, in cases of peculiar difficulty or danger.

Hardly any life, even of a literary man, can be conceived to afford fewer interesting materials for a biographer than Dr. Monro's. It was distinguished by no striking event, it was chequered by no vicissitudes of good and evil; it was a life, from early youth to extreme old age, of almost uniform and uninterrupted prosperity. Nay, he seems scarce to have felt any of those difficulties and discouragements in his splendid career, which most men of literary professions, but especially physicians, experience in their progress to the highest honours and rewards to which they can aspire; and certainly his progress never was retarded by any such adverse circumstances. His success, on all occasions, like the victories of Timoleon, seemed always to be accomplished with ease; yet it cannot, on this account, be attributed altogether to good fortune, or mere chance. Some favorable, almost accidental, circumstances contributed, no doubt, to his great success in life: but much more of it must be attributed to his own merits; to his constant unexampled activity in every pursuit in which he engaged; and to his good sense in perceiving and improving those advantages which might be considered as mere favours of fortune.

It must be useful and instructive, and, therefore, in some respects interesting, to know what fortunate circumstances, and what merits of his own, chiefly raised him to that eminence which he so long maintained. By his father, he was from his earliest youth carefully instructed in anatomy, and soon acquired such a taste for that science, and prosecuted the study of it with such ardour and perseverance, that, in the year 1753, he assisted his father in his anatomical lectures in the University; and, in the year 1755, was appointed conjoint professor of anatomy and surgery along with his father, who resigned the office entirely to him in 1758. From that time he continued to teach regularly for

more than fifty years. His lectures were attended by vast numbers of students, generally from 200 to 400 every year. But, in the whole time, fifty years, or more, that he taught anatomy and surgery, his lectures were attended, in all, by fourteen thousand students.

This of itself, may well be regarded, as a good proof of the merit and usefulness of his lectures, which indeed were conducted on a plan of the most extensive utility. It may well be doubted whether so useful a preliminary and preparation for the study and practice of physic and surgery ever had been given before in the form of lectures, or in any other form.

Dr. Monro's acknowledged merit as an anatomist, and as a teacher of surgery, though he was not himself a practical surgeon or operator, almost immediately brought him into very extensive practice as a consulting physician in the more important and difficult chirurgical cases; and in many cases, strictly speaking, not chirurgical, as not requiring or admitting of relief by any kind of manual operation; but for the complete understanding of which, with a view either to prognosis or practice, the most accurate anatomical knowledge is peculiarly requisite.

The quickness and clearness of his perception in such matters, his strong good sense, his decisive judgment, and the intimate knowledge of every part of the practice of physic, which he uniformly displayed on those occasions, soon, and most deservedly, procured him general confidence, and very extensive practice as a physician.

Perhaps no man of the medical profession ever more strongly illustrated by his conduct, and by the general tenor of his practice, the important truth, that the most valuable part of a physician's merit is good common sense steadily employed on a particular subject. If that one essential requisite be wanting, learning, science, genius, and every other accomplishment, are of no avail.

It is recorded of an ancient Greek physician, whose name (Trophilus) and whose apophthegm, but none of whose writings, have descended to us, that when he was asked 'Who would be a perfect physician?' he answered 'He who is able to distinguish what can be done, and what cannot be done.' As this apophthegm has been preserved, it is plain that his countrymen and cotemporaries perceived the truth, acknowledged the merit, and felt the force of it; as every physician must do at once, who has been much engaged in practice, and who has fairly attended to what he saw.

But most physicians seem never to have known, or obstinately to have disregarded, that most important and almost self-evident truth; and very few of them have had the merit of regulating their practice according to that most precious maxim.

This merit Dr. Monro possessed in a very high degree. His just notions of general science, his thorough knowledge of medical science, but especially of anatomy, and of that part of pathology, with respect to the nature and causes, and seats of disease, which is ascertained by the dissection of morbid bodies, or what is often called morbid anatomy; and most chiefly his own strong good sense, and constant habit of strict attention and accurate observation, in his own practice, enabled him to perceive at once the futility of many hypothetical and erroneous, but very fashionable and prevailing doctrines, with respect to the nature and causes of many diseases; and of course led him to distrust, and often to reject, as unavailing at least, if not hurtful, many supposed remedies, and modes of practice, which were generally employed in consequence of those hypothetical dogmas.

The same accomplishments equally prompted him, and enabled him, to appreciate the real merits of many remedies which, from time to time, were introduced into practice with the most extravagant applause, purely on empirical principles; that is, on experience, real or supposed, of their good effects, without even an attempt to account for those supposed effects, or any pretence to explain their mode of operation.

Thus most effectually preserved from two of the worst and most frequent causes of bad medical practice, *his* had the merit of being simple, rational, and powerful; perhaps as powerful, and consequently as successful, as can be employed in the present imperfect state of medical science. But even the being spared the misery of enduring the administration of many unavailing remedies, bad if only frivolous, but much worse if severe also, was a matter of infinite consequence to his patients. Of his merit as a practical physician, when acting singly, his professional brethren, who have had occasion to consult with him, cannot fail to have a very high and just notion, when they recollect what his conduct was in consultation. Without any subtile disquisitions, without any controversies about obscure or disputed points, without any credulity as to the virtues of particular remedies, and far above the miserable vanity of arrogating to himself any superior skill, or pretending to extraordinary success in his own practice, he was generally the first to propose, and always was ready most candidly to agree with others who proposed, those simple and powerful modes of practice, from which alone, in urgent and dangerous cases, any essential benefit can be obtained. And in the many hopeless cases, in which his assistance was required, he was generally the first to observe that, 'little or nothing can be done in this case;' or, 'that there is no room for active practice here.'

Such remarks invariably led to the very humble and modest, but only rational practice which can be employed in these cases, the administration of remedies which may alleviate the sufferings of the patient, though they cannot cure the disease."— (*Memoir*, pp. ix.—xii.)

The second part of the work before us consists of the essays and heads of lectures of Dr. *Monro, Secundus*, enriched and illustrated as they are throughout by copious and valuable notes from the pen of the editor, Dr. *Monro, Tertius*. Of this portion of the work we feel that it would be difficult, if not impossible, to give a regular analysis. It embraces such a variety of important subjects, and comprises so much minute information, anatomical, physiological, pathological, and practical, that our limits would not do justice to it. We feel, therefore, that we are best discharging our duties to our readers by referring, and recommending them, to the work itself. In fact, as a standard book, and for occasional consultation, it ought to find a place in every medical library. If it should be objected by some that the opinions and labours of the late Dr. *Monro* belong to the last age, if not to the last century, and have been superseded by more captivating, and more modern, if not more accurate, researches; we would reply that the objection is met in limine by the real truth that the learned editor has everywhere added, in notes, such explanations of his father's doctrines, and (when needful) such corrections of them, as the progress of time, and the advancement of science, have rendered desirable. The work therefore, in point of fact, has quite a modern aspect; for the editor's notes, together with the communications of his various distinguished correspondents, bring up every thing, whether speculative or practical, *au courant du jour*; and thus super-add the attraction of novelty to the more solid and lasting merits of the volume.

On looking back, aided by all the advantages of our modern lights, at what the late Dr. *Monro* did and taught, no one can fail to perceive that he must have been a man of wonderful sagacity, and greatly in advance of his age. Long before the diagnostic discoveries of *Laennec* had dawned upon the world, Dr. *Monro* practised exploration of the chest, by manual examination, percussion, and agitation of the body. This circumstance is verified

by the testimony of Sir Charles Bell and Dr. Alison of Edinburgh, both of whom had attended patients with him, labouring under diseases of the thorax. Moreover, he taught in his lectures, in the most distinct and emphatic manner, *the identity of human cow-pox and small-pox*; in other words, that cow-pox is merely small-pox, modified by transmission through the cow; a most important doctrine which has been verified by the experiments of Mr. Geeley (an eminent surgeon of Alesbury*) only within the last two years. Such facts as these, in the estimation of the profession, and of all posterity, must stamp his fame.

A TREATISE ON THE SYMPATHETIC RELATION BETWEEN THE STOMACH AND THE BRAIN; AND, THROUGHOUT, BETWEEN THE DIGESTIVE AND THE NERVOUS SYSTEMS, IN THE CAUSATION AND CURE OF DISEASES. With an Appendix, containing a few Observations on certain Points connected with the Treatment of Chronic Disease, and its attendant Debility. By *Charles Wightman*, M. D. Licentiate of the Royal College of Physicians of London, and Resident Physician in Newcastle-upon-Tyne. London. Simpkin, Marshall & Co. 1840. Small Octavo, pp. 192.

It has been said "*Medicina nusquam non est*,"—an aphorism expressive at once of the universality and antiquity of our art. No less universal, and scarcely less ancient, is the doctrine of sympathy betwixt the stomach and the brain. It is, in fact, one of the most familiar, as well as most fundamental doctrines of physic; and has been taught from time immemorial; although, perhaps, it has been looked upon as too much of a truism to be specially treated of in monographic essays. We do not say this, in any degree, from a desire to be over-critical with Dr. Wightman, or to disparage his favourite subject of contemplation. Far otherwise! We freely bear witness to the talent, as well as diligence, he has displayed in illustrating this sympathetic relation, which he justly considers has such an important pathological and practical bearing. It is to the originality of his researches that we demur,—not to their value or usefulness. There is a little prudery, we think, in so well-informed a writer ransacking old bibliographical catalogues, and citing the almost forgotten works of Veegens, Rega, and Rahn, as the only ones bearing upon his subject. In this, as in some other instances, we suppose—

"'Tis distance lends enchantment to the view ;"

for on no other hypothesis can we account for our author's thus reversing Time's telescope, and overlooking what has been written, and well written, on the doctrine of sympathy, by later and even contemporary authors. It

* See Vol. VIII. of Transactions of the Provincial Medical Association.

is not for us to speak of the writings of the Editor of this Journal, except in modest and restrained terms. But delicacy need not altogether prevent us from referring those whom it may concern to the various works of Dr. James Johnson, for copious and forcible illustrations of this very doctrine, viz, the intimate sympathy subsisting betwixt the brain and stomach, on the one hand; and betwixt the digestive functions and the influence of the nerves, on the other. We might quote his Treatise on "Civic Life, Sedentary Habits, and Intellectual Refinement," published more than twenty years ago. We might, also quote his striking chapter on the "Morbi Eruditorum, or Diseases of Literature," at p. 143 of his book on "The Influence of the Atmosphere," published in the year 1818. Or, finally, we might express our surprise that the graphic picture of the *patho-proteian malady*, (as Dr. Johnson calls it, in his "Economy of Health," published so lately as 1837,) should have escaped the notice of a gentleman of Dr. Wightman's literary proficiency, and studious habits. But, waiving this strain of discussion, as one in which we may be supposed to have too near a personal concern, we may inform Dr. W. that his favourite subject of "Sympathy" is pretty fully treated of in Bichât's "Anatomie Generale;" and that Ploucquet's "Literatura Medica Digesta," under the heads "Consensus" and "Sympathia," supplies a whole host of preceding authorities.* It would be foreign to our purpose to go more at length into this matter, as we are contending for truth rather than victory.

It is time, however, to enter more particularly into the contents of Dr. Wightman's book, and to examine them more in detail. After a well written Preface and Introduction, he proceeds to discuss the influence of the stomach upon the brain; and of the brain upon the stomach. He illustrates this "sympathetic relation"—1. By the consequences of Injuries to the Head. 2. By the Effects of external Violence on the Epigastrium. 3. By Fever, more especially Typhus. 4. Acute Gastritis. 5. Apoplexy. 6. Epilepsy. 7. Hydrocephalus. 8. Chronic Disease of the Brain. 9. Sick-headache. 10. Dyspepsia and Nervous Disorder combined. 11.

* Even non-professional writers are no strangers to this sympathetic doctrine. Shakspeare, who by his wonderful power of intuitive genius, seems to have known everything, was well aware of the influence of the depressing passions (acting, of course, through the brain and nerves,) in suspending the function of the stomach. Cardinal Wolsey, on first discovering his loss of Court favour, is made to bewail his altered fortunes, in the following beautiful and touching terms:—

"————— nay, then, farewell!
I have touch'd the highest point of all my greatness;
And, from that full meridian of my glory,
I haste now to my setting;—I shall fall
Like a bright exhalation in the evening,
And no man see me more!"

— The King, in announcing to the Cardinal the loss of his royal countenance, and the disgrace sure to ensue, does it in the following words: a physiologist or pathologist could not have expressed it better:—

"————— And now to breakfast, with
What appetite you may!"

Mental exercise. 12. The Operation of certain Poisons. To the above is added a section in vindication of the late Dr. Hamilton's plan of treating various acute and chronic diseases by purgative medicines; and an Appendix on the influence of minute doses of mercury, in the treatment of chronic disease, according to the instructions of Dr. Wilson Philip. This simple enumeration will convey some idea of the *practical* interest and importance of the work.

As familiar examples of the influence of sympathy between the brain and stomach. Dr. W. gives the following:—

“When a person previously in the full enjoyment of health, and possessed of great strength of body, receives a severe blow upon the head,—in addition to the abolition of sense and motion, (the direct effect of the concussion of the brain,) vomiting in general almost immediately takes place; and not only are the contents of the stomach itself rejected, but a quantity of bile, of a dark green colour, entirely different from the healthy appearance of this fluid, is thrown up. Most individuals who have been unaccustomed to sailing, while affected, on going to sea, with certain indications of disordered brain, such as vertigo, anxiety, and prostration of strength, are also seized with nausea and vomiting, the symptoms of disordered stomach; more especially if the weather be tempestuous, and consequently much tossing of the vessel upon the waves. There are some persons, also, whose nervous system is so irritable that they experience the same symptoms of stomach disorder from dancing for any length of time: from riding in a carriage, particularly if they be drawn backwards; from swinging; and from turning their bodies in rapid gyration. In all these cases, it is evident that the morbid affection of the stomach is only secondary,—or the consequence of this organ sympathizing with the brain; the functions of which are in the first place disordered by the blow inflicted upon the head, the motion of the carriage, the tossing of the vessel upon the waves, and the rapid circuitous movement of the body; indeed, in the latter instances, this is sufficiently demonstrated by the vertiginous sensation primarily induced. This disorder of the functions of the brain occurs in these cases, although there is no lesion or disorganization of its structure; but solely from its commotion excited by the causes mentioned; by which commotion the nervous influence is disturbed—interrupted at its source; a suspension of balance between the brain and the stomach consequently takes place, and the latter by sympathy manifests the disorder of its functions. On the other hand, a common example of morbid affection of the brain, arising from sympathy with the stomach as the organ primarily disordered, is presented to our notice by the effects of the indigestion of aliment. It is undeniable that if food, either difficult of digestion, or in too great quantity, be received into the stomach, not only will this organ be oppressed, as shewn by its own proper symptoms of nausea and vomiting; and a quantity of sordes will be accumulated in the bowels, occasioning diseases in these; but also headache, vertigo, diminution and depravation of sight in various ways, deafness, noises in the head, and confusion of the internal senses, the well-known indications of cerebral disorder, will be induced;—all which symptoms will disappear on the offending matters being discharged from the stomach by the operation of emetics; and from the bowels, by that of purgatives.” Pp. 2—4.

Of this explanation, we shall only say that it is good, according to the present reigning doctrines; but that, in point of fact, it explains nothing:

“Felix qui potuit rerum cognoscere causas.”

In tracing the arcana of nature, we are too apt to mistake words for things!

We speak of sympathy in physiology, just as we speak of attraction or repulsion in physics. The word, in either case, simply expresses a *law*: it does not explain the *power* whose mysterious movements constitute that law. The language of science does not advance us one jot towards the fountain-head of knowledge. This is mortifying to the pride of intellect. But yet it is the best and most salutary sort of knowledge to know that we are ignorant; or, in other words, to be aware how little we know of the mysterious agencies going on within and around us. In what we have just said as to the defectiveness of his explanation, we need scarcely say that we do not consider the defect chargeable to Dr. Wightman; but rather to the present imperfection of our knowledge; or, perhaps, of our faculties.

The space to which our remarks have already extended, makes it impossible for us to notice, even cursorily, the different chapters into which our author's excellent little work is sub-divided. We must therefore content ourselves with recommending them generally. We are quite sure that a careful perusal of the whole book will be useful to many, and acceptable to all; and we sincerely wish for it a rapid and extensive sale. But we cannot conclude without telling Dr. Wightman, great as is our respect for his practical talents and judgment, that we cannot go along with him in his out-and-out admiration of Dr. Hamilton's purgative practice. The eminent founder of that practice was himself, we *know*, a little too indiscriminate in its application; and, as was almost to have been expected, his admiring imitators have been still more so. The plan, from its apparent simplicity and energy, possessed great attractions for the young, the indolent, and the innovating; but we believe there are few—very few—whose opinions have been matured and chastened by experience, that still cling to the practice, or continue it to the same extent as inculcated by Dr. Hamilton.

As little can we acquiesce in the sanction which Dr. Wightman has given to the paramount utility of minute doses of mercury in the treatment of chronic disease; a practice enjoined by Dr. Wilson Philip. For that distinguished physician and physiologist we entertain very high respect:—we also think most favourably of Dr. Wightman. But nevertheless we retain our own opinion, founded on experience; and beg to differ from them both. "*Amicus Socrates, amicus Plato; sed magis amica veritas.*" We have found, in our own practice, that the method of minute doses will not do. And our experience, in this instance, is confirmed by that of others; for we remember, a few years back, when Dr. Wilson Philip's book on the subject first came out, we put queries to the most enlightened of our medical brethren as to the result of their experience on this point. They were unanimous in condemning the practice of minute doses, as being at once inert, and unsatisfactory. Nor is this the sole objection. So much time is required to achieve success in those instances where success follows the "minute" practice, that the physician is ever exposed to the suspicion, either of the patient or of the bye-standers, that he is procrastinating the cure for mercenary purposes;—a suspicion than which none can be more galling to a man of feeling and of probity; and against which the "*conscia mens recti*" is no adequate counterpoise. We may also observe that those who find the "minute-dose" system to answer, must have ways and means of securing the confidence and stability of their patients to which we are strangers. We constantly find, that where a case hangs long in hand, the patient, or

his friends become fidgetty and unsettled—if not dissatisfied. The upshot is, that long ere the “minute-dose” plan, or any other plan, which requires time for its element, has had a fair chance of succeeding, the patient is off, at rail-road speed, to place himself under the infallible cure of some fortunate juggler at some fashionable watering-place!

MEDICAL REFORM.

I. THE TOUCHSTONE OF MEDICAL REFORM; in Three Letters, addressed to Sir Robert Harry Inglis, Bart. M. P. by *Joseph Henry Green*, F. R. S. Professor of Anatomy to the Royal Academy, one of the Surgeons of St. Thomas's Hospital, &c. Highley, London 1841.

THIS is not the first time that Mr. Green has appeared before the public as a reformer. This, indeed, is no especial distinction, for all are reformers now-a-days, and the difference lies in the extent to which men go, not in the the consent or refusal to move.

Mr. Green's opinions will command attention and deserve much weight. His absence from the field of private practice and of party strife—his independent fortune and position—his high intellectual and eminent professional attainments—and last, not least, the gentlemanly bearing and strict honour of the man, ensure to his sentiments a favourable audience, and remove all suspicion of interest or faction. If a bias can be supposed to stick to opinions emanating from such a source, it can only be the bias of caste, and a leaning towards aristocracy.

We shall content ourselves with putting our readers in possession of the principal views of Mr. Green, without any comments on our part. Events are marching on, and predictions may be falsified before they can be published. Like Lord Melbourne, we feel a particular dislike to venture on prognostications. They are extremely dangerous. Who would have guessed that poor Mr. Hawes's Bill would have vanished so miraculously from the floor of the house? Wise men imitate Lord Burleigh—shake their heads, and say nothing.

Mr. Green's pamphlet consists of Three Letters, intituled respectively—

I. On the Character of a Medical man in connexion with the Nature and Objects of a Profession.

II. On the Institutions calculated to Educe and Foster the Professional Character.

III. On the Regulation and Economy of the Medical Profession.

I. In setting forth the character of a medical man, Mr. Green lays it down as undeniable that his qualifications should consist in—

1st. The possession of *technical knowledge and skill*, in that degree which shall enable each member of the profession to apply all the resources of art, which the whole profession can supply. 2dly, *Scientific insight*, or the posses-

sion of the knowledge of those laws or rational grounds, which form at once the principles and ultimate aims of all professional knowledge. And, 3rdly, *The character of a gentleman*;—that his conduct shall be the pledge and proof that he pursues his profession as a liberal science, and that, in all his dealings with his patients, his professional brethren, and the community, he is ever guided by the principles of strict professional honour.

Of course this is the ideal of a professional character—what all should aim at, none can attain, but every one will be the better for striving to reach. Mr. Green dwells forcibly on the connexion of medicine with general science, on the necessity of a liberal education, and on the security this offers for the promotion of the philosophy and diminution of the empiricism of physic. And are not the following observations worthy to be read and to be remembered? We think they are.

“It has been my aim to prove the vital connexion between the profession and the science corresponding thereto, so as to establish a balance of sight and insight, between individual skill and the general principles which predetermine its application, and hence likewise the connexion between the profession and the universal sciences, between science itself, and the habit of sciential thought, in the unity of its spirit and essence. It is herein that we find the ground of a *liberal education*, common to the professions, and to the gentry of a country, of an education fitted to maintain the continued succession of a class of *Viri liberales*, of gentlemen, of men imbued with the liberal sciences, of professional men, who in full possession of a liberal science, apply it to the needs and benefits of their fellow citizens. Nor can it be deemed of slight importance, that those destined for the medical profession should partake of that education which is required in common for the liberal professions as an integral part of the gentry of the country, with the sense and habits of a common training in their duties, moral and religious, in their obligations as citizens, and in their sentiments of professional honor as gentlemen. And if the conduct of the medical practitioner is to be the *proof* of his pursuing his profession as the result of a liberal education—of the cultivation of the sciences, as the grounds of the professions, with the common bond in all, that the several sciences are branches of that universal science, the essence of which being the reason, tends to give distinct insight, and ultimate aim to all professional knowledges—we may add that the cultivation of science for its own sake, as the predominant object, can alone entitle him to the rank of a gentleman, and must ever constitute the essential difference between a profession and a trade. For, as in the latter, the art is rightfully considered as the exclusive means of gain, so the former must inevitably be degraded into a trade, whenever mercenary and sordid motives supersede the scientific aim. It is not indeed an entire elevation above empirical practice that constitutes the difference between the professional man and the empiric; for both the imperfections and the difficulties of the art, which has so complicated, and at the same time so endlessly variable and fugitive, a subject as the human body in health and disease, will long continue to impose the necessity of practice more or less empirical on the wisest and most profound of the profession. But it is the absence of science, or the contemptuous neglect or disclaiming of the same; it is the elevation of a blind empiricism above science, and as superseding all connexion therewith, that constitutes the empiric, and in all reason degrades him to the carrier on of a trade, a business, or at best an equivocal art. These positions are strictly applicable to the medical profession. We demand of all its members scientific aims and objects; we denounce as empirics those who neglect or disclaim science; we reject as tradesmen those for whom the profession is only a lucrative business; and we brand as quacks those who dishonestly make

it the means of levying a tax on the hopes and fears of the ignorant and credulous.

But we say likewise that, as the member of a liberal profession, the medical practitioner is to evince in his whole conduct the character of a gentleman. And it is impossible that the members of the medical profession should have that due weight in society, and occupy that place and rank to which the science entitles them, unless their qualifications and conduct individually, are consonant with the requirements of the professional character, and unless they show by the whole tone and tenor of their conduct and demeanour, that they are fully actuated by its spirit. The character and dignity of the profession, of which each individual member is to be the representative—the education, manners, and habits of those with whom it should be his ambition to associate, namely, those who form the gentry of the country, and constitute its mind by virtue of elevating pursuits, scientific attainments, literary refinement, and moral excellence—and no less the demands of society at large, dictated by that high degree of civilization, to which it has attained in this country, all these challenge those excellencies, which are distinctive of our humanity, and which indeed, are therefore required of every man, but which no calling is more fitted to elicit, and which no calling more imperatively requires, than the medical profession." 16.

II. The Letter on the Institutions calculated to form the Professional Character, is mainly occupied with the same idea, the advantage of connecting the study of medicine with that of general science. The only passage we are inclined to quote, is one referring to the University of London.*

"In alluding to this institution, on the one hand, I should be acting an unworthy part, if I were to flatter the predilections of its unconditional admirers; and on the other hand, I should be unwise to withhold my approbation of an institute, which possesses both the power and the means of exercising the most beneficent control over the future prospects of the medical profession. And I trust, that under its authority, we may yet see the medical schools of the metropolis connected with colleges, in each of which we might find a *school* for elementary instruction, a *senior department* for instruction in those knowledges which are common to all the professions, the proper objects of collegiate education, and heretofore named the liberal arts and sciences, and a *medical department* for the studies properly medical; and these provided with their due appointment of accredited teachers and professors. And I no less fervently hope that the means will be in each case provided of residence within the walls of the college: as I am sure that we cannot estimate too highly the advantages from this provision for an intermediate state between that of the full-grown school-boy and the independent young man—a state during the most perilous period of human life, in which the individual may remain *sub tutela*, yet no longer as a boy, but as a man influenced by the principles and estimation of his equals, by the example of his seniors, by the habits and laws of the college in which he dwells, and mildly coerced by a peculiar discipline, which even at the time he feels to be an honourable distinction, and which he knows will be hereafter considered by others as entitling him to a distinct rank in society. Lastly, in the co-organization of all the colleges in the unity, and by the bond of universal science, we may hope to find the common grounds of professional excellence gradually reduced to the most effective system, as a complexus of means to various ends, ideally re-united to the same ultimate end." 35.

* Not University College, but the Metropolitan University.

We admire these aspirations of Mr. Green's. They show his singleness of purpose and integrity of heart. But, so far as the facts have gone, we are not quite sure that anticipations of this sort have been realized. We are not aware that the medical students of King's College or of University College have signalled themselves by their morality or gentlemanly bearing—or that, in these respects, they have proved any better than the pupils of the other schools.

III. The Third Letter comes more to the point than its predecessors, and touches the *raw* of medical reform more sharply.

Mr. Green proclaims himself an enemy to quacks and quackery. Yet he scarcely knows how to go about their demolition.

"It is rather a consideration of the practical difficulties, than any doubt of the principle of interference, that would prevent my urging the Legislature to withdraw its countenance, accorded under a specious and misused plea of liberty, from the knavish quack, and to protect by penal law, his patients, who vindicate their civil rights at the expense of being robbed, maimed, and poisoned. Certainly it is disgraceful to the country that its government should derive a revenue from so unholy a source as that of patents granted to secret remedies and pernicious nostrums. And, at all events, as the writer of the excellent article on Medical Reform in a late number of the Quarterly Review, has pointedly argued, if every individual is to be at liberty to choose his medical adviser in his own case, he ought to be restricted at law from making others the victims of his whims and caprices; and whenever his functions impose on him the duty of selecting a medical practitioner for a public office, or of appointing him to the charge of others, his choice ought to be limited to those whose qualifications have been tested and approved by the legally constituted authorities." 40.

Mr. Green points out the numerous licensing bodies, their clashing enactments, the want of some controlling power to give harmony to their regulations and direct them to a general rather than a selfish object, and their insufficient powers of protection to their members and repression to imposters. And he adds—

"If then I am right in considering these as the main grounds of the grievances complained of by many members of the profession, and implying a serious drawback on the utility of the medical profession to the community at large, it cannot be doubted that for their rectification and removal, the most pressing need, offered for deliberation to the legislature, is that of forming an efficient *head* for the government of the whole profession, so constituted and vested with such powers as shall secure, under varying circumstances, the unity of the profession, in accordance with its final aim and intention. In considering this important condition, both of the stability of the profession, and of its efficiency, in connexion with the national interests, various plans will suggest themselves, but probably the establishment of a STATE COUNCIL FOR MEDICAL AFFAIRS will be found to be most in harmony with our institutions, and congenial to our habits, and will be best calculated for providing an effective bond of union in regulating and protecting the interests of the different departments of the profession, as *one body*, having an essential community of interests and objects; this council emanating from, and responsible to, the Government of the country for the efficiency of the profession, and for the performance of its duties, private as well as *national*." 44.

"If then the remedy for the evils above adverted to is to be sought in the projected Council of State for medical affairs, the consideration of its constitution. No. 84.

tion and of the mode of its appointment cannot be wholly passed over; and perhaps the following hints may be available in the settlement of the grave questions which these subjects involve, and which must await their final adjustment by the consent of parties seriously affected and variously interested. 1st, As the functions of the Council will be *deliberative*, it should consist, as is indeed implied in the name council, of *various* members; though for the dispatch of business it is evidently desirable that they should be as few as the nature of the constitution of the council permits. 2dly, As representative of the different corporate bodies,—if the principle of representation be adopted in the constitution of the Council, though it is not essential to the plan and involves some serious difficulties—as representative, I say, of the corporations, the proceedings of which are submitted to it for discussion and approval, and as reciprocally influence of the proceedings of the corporate bodies, which it regulates, the Council might consist of members from each of the medical corporations of the United Kingdom;—whether from all the departments of the profession, whether one or more from each, and whether in like proportions from every one, we leave here undetermined. Thirdly, as the corporate bodies must be best acquainted with the capabilities of their own members and their relative fitness for the duty required, we anticipate no objection to their *nominating* and *recommending* their representative in the Council; but, as the functions of the Council imply pre-eminently *duties* to the profession at large and to the country, we expect that the right of *appointment* will be claimed by the Crown. Fourthly, as the Council is to be the depositary of a trust for the benefit of the nation, and therefore a functionary of the Government, we must anticipate the addition of *Lay Assessors* appointed by the Crown, though the reason assigned does not warrant us in expecting that they will form more than a small proportion of the members, or that they will be other than judicial authorities or legal advisers, and one of the members of Her Majesty's Government." 47.

All *bye-laws* and *ordinances*, emanating from these for the regulation of their own administration, or of the practical departments of the profession, over which they preside, should be submitted to the State Council for its *approval* as the *indispensable condition of their validity*. The accounts of receipt and expenditure of the corporate bodies might be laid before the council.

It may well deserve consideration, whether the duty of taking *cognizance of the practices of unqualified persons* might not properly be committed to it;—and whether, with this view, and as far as this specific object is concerned, it ought not to form a tribunal invested with powers judicial and penal.

Mr. Green hints, too, that all *druggists* and *chemists* and *persons serving and compounding medicines*, all *keepers of houses of reception for lunatics*, all *dentists*, *cuppers*, and *the like*, should be obliged to have their qualifications examined, to have a *license* for their several callings, and to be amenable to the State Council for medical affairs. And he conceives that the same tribunal might be armed with authority to expel from the profession all those, who by *dishonourable practices*, had rendered themselves unworthy of the character of members of a liberal profession, whether by the use of secret remedies, by advertising, by partnerships in trading concerns, by calumnious reports of their professional brethren, by breaches of professional confidence, or by whatever else may be considered derogatory to a professional character.

And this council might attend to the public health, appoint district boards, and arrange medical relief to the poor.

But what is to be done with the present colleges? Are they to be swept away, or preserved and rendered more efficient? Mr. Green argues the matter thus.

"A question meets us at the very threshold of the inquiry, which implicates the safety and continued existence of the metropolitan medical corporations. The main design of these institutions appears to be that of applying to candidates the requisite tests of competency in order to their qualification as practitioners. But it will be said that this has been already done in the cases of Doctors of Medicine at the Universities of Oxford and Cambridge; and it may be asked why the graduates of these Universities, with the proof of competency which their degree affords, should be subjected to fresh tests, in order to enable them to practise in London or within seven miles around it. And this question is again the parent of another; why the degree conferred by a University should not be in every instance likewise a license to practise; provided always that its course of instruction be adequate and known, and that it be not suspected of venality in disposing of its degrees. Now this is the main question; for a University has been instituted in London with the main design of conferring medical degrees, and if the foregoing question be answered in the affirmative, it would be difficult to evade the conclusion, or avoid the practical results, that the London University would ultimately become, as has been proposed, the sole source of the licenses to practise, not only of doctors of medicine, but of surgeons, and of general practitioners;—at all events, no very solid reasons could be assigned for the maintenance of the medical corporations of London, if it be true that their functions are confined to ascertaining the qualifications to practise, and that the London University is equally competent to discharge these functions, and is required to perform them in its appointed vocation of conferring degrees. But, specious as this mode of reasoning renders the argument, the truth will be found, I venture to say, in the fact—implying a very different reply to the question above proposed—that a university is not competent to perform the duties of the medical corporate bodies. These, indeed, have all the means and appliances of examining the qualifications for a license to practise in their respective departments; and it can scarcely be doubted that in an examination, of which the principal merit is practical, they will have all the advantages derived from the superior attainments of the examiners;—and if a University be better fitted to test the progress of education, preliminary, accessory, and professional, through its different stages, yet it offers no inducements to men of the greatest experience and eminence to contribute their aid in ascertaining its requisite practical sufficiency. It has been, I apprehend, a felicitous result of a London medical education, in connection with its medical corporations, that in giving it throughout a practical tone it has eminently contributed to the character of good sense, which distinguishes the English practice of medicine and surgery. But these corporate bodies, in their nature and design, have other most important functions, conducive to the well-being of the profession over which they preside. They are the *representatives* of the departments of which they are respectively the heads;—they are in their intention the *guardians of the interests* of the profession; and if they have been thought remiss in their duties, it may be fairly attributed rather to a deficiency of their powers than to any want of inclination or zeal;—they are the great organs for promoting the cultivation of the science of the profession, and fitted for collecting and distributing information, the bonds and links of the actual members of the profession throughout England and its vast dependencies, for preserving the unity of the profession in the spirit of ever expanding science, and of professional honour. That their means of exercising these salutary functions might be enlarged cannot be doubted; but we shall in vain look for the same capabilities of maintaining a living intercommunion of the whole actual profession in any institutions, of which the sole purpose terminates in the completion of education." 57.

Mr. Green thinks it was an error in the authors of a Metropolitan University not availing themselves of the advantages and co-operation of the existing colleges. It is singular that those who failed the establishment of that university as a death-blow to the colleges, are as loud as ever in their demand for reform and assertion of its necessity—a proof that either such an university is unsatisfactory, or that it has failed in coping with the colleges while the voluntary system operates.

Mr. Green applies himself to the *College of Surgeons* in particular, and specifies the reforms he would see in that.

He is opposed to very popular and open elections in a scientific body. From such would spring, as from a hot-bed, all the evils of intrigue and action. Evils foul enough in the political world—but in the scientific—

Most foul, strange, and unnatural.

“But,” says Mr Green, “it may be perfectly true that members of the same class as those eligible into the Council may now, from changes in the profession and improvements in education, have become a body, whose attainments and qualifications it would be unwise to overlook or neglect, in any probable change of the constitution of the profession; and I hold it to be a legitimate object of inquiry whether there are any means of producing (consistently with the design of our institution and the welfare of the profession) a greater confidence in the College, a closer union of its members, and thereby a probable extension of its influence and benefits

And though there may be no valid reasons for expecting that the functions of the College of Surgeons would be exercised with more advantage to the public or the profession, yet for the purpose of promoting a cordial sympathy and communion of men engaged in common professional objects and having common interests at stake, I would not withhold my assent in any revision of the charter to a modification of the mode of electing members of Council, and to the concession of an *elective privilege*, the conditions of the extension of which beyond the Council I proceed to discuss. And in entering upon the question of these conditions, we dare not for a moment lose sight of the principle, which is to guide us throughout, that the College is essentially a College of Surgeons and unalterably and eminently an institution for the promotion of the *Science of Surgery*. It follows, therefore, undeniably that the first condition of qualification for enjoying the elective franchise is that of *practising Surgery exclusively*; and, negatively, that the elector neither practises pharmacy nor midwifery, nor belongs to any other college or body incorporated for the promotion of physic, pharmacy or midwifery. That this is not an invidious distinction will be at once apparent, if we consider that the members of the College, who are *Surgeon-apothecaries* form an overwhelming majority, and that making Surgery a subsidiary qualification of their calling, they cannot be supposed to have that interest in the objects, for which the College of Surgeons is instituted, and which the elective trust imperatively requires.

When we consider the mixed character of the members of the College, it is impossible not to see that a broad distinction must ever exist between those who are *Surgeons* by *profession*, and those who make *Surgery* a *subsidiary qualification*; and in the changes here contemplated we cannot, therefore, doubt the propriety of dividing the two classes, and of distinguishing them by the respective designations of *Fellows* and *Licentiates*. In connexion however with this division, we propose to make it the means and occasion of raising the *standard of surgical education* by requiring of the proposed *Fellows* such attainments as shall eminently fit them, not only to be electors but eligible to all places of honor and trust in an institution the object of which, I repeat, is that of promoting the

science of surgery :—and in order to prevent any misconception it may be here stated that with exceptions, hereafter adverted to, the qualification for the elective franchise is intended to be twofold, namely, 1st, the practising surgery exclusively,—2nd, the degree and title of *Fellow*.^{* 62.}

The candidate for the fellowship—1st, Should have attained at least twenty-four years of age, though the great and undeniable advantage of a lengthened education are such that the age of twenty-six years would be doubtless a preferable qualification :—2nd. Should have graduated *in Arts* at one of the British Universities, or should show by an examination for that purpose a due proficiency in those branches of study, which that graduation implies, though the Metropolitan Colleges now offer all the requisite facilities for providing the qualifications proposed :—3rd. Should be provided with sufficient testimonials of his *moral character* and conduct :—4th. Should be subjected to *examinations* for ascertaining his professional qualifications, which might consist, 1st, Of his acquaintance with the writings of those authors, who mark the great epochs of the *history of medicine* ; 2, In *Anatomy* and in *Physiology*, human and comparative ;—3, *Pathology* ;—4, *Therapeutics*, especially surgical, or what is commonly called the practice of surgery. Moreover he should be required to have occupied six years in his professional education, during a considerable portion of which period he should have attended a hospital, and have treated a certain number of surgical cases ;—and he should be required to furnish a series of *clinical reports*.

A Fellow may practise pharmacy or midwifery, but then he could not be an elector of the council. General practitioners who had passed the higher examinations might constitute a class of *Honorary Fellows*, who, showing that they no longer practised pharmacy or midwifery, might claim the privilege of their fellowship.

The *College of Physicians* would be more efficient (Mr. G. does not touch upon its constitution) if its jurisdiction over the practitioners of physic embraced England and its dependencies, in licensing those duly qualified, and in protecting the community from the intrusion of uneducated and dishonest pretenders to medical skill and knowledge.

A Midwifery Board.—There would be no difficulty in selecting persons of ability and influence, who might constitute a board for determining the qualifications of those desirous of obtaining a license to practise obstetric medicine, or of those who require it as an additional qualification, and intend to become *Licentiates* in medicine, surgery, and midwifery.

The Society of Apothecaries.—"Perhaps the omission of any distinct board of *General Practitioners*, corresponding to the Society of Apothecaries, cannot be wholly passed over without some notice. It is, however, evident that any board

* We have heard, we should think the rumour childish, that the College of Physicians have objected to the title of Fellow of the College of Surgeons. They might just as well object to Fellow of the Royal Society, or of the Antiquarian Society, or to the respectable body of *Odd Fellows*. The thing is too absurd to be credited.

for examinations, would be wholly unnecessary, as those described above include the requisite means for determining by those best qualified by their education and attainments, the qualifications of candidates; and we repeat that any separate board would be unnecessary, notwithstanding that we cheerfully admit that the amelioration and improvement of the education of students in London has been mainly owing to the regulations of the Society of Apothecaries. But we see likewise a great evil in the establishment of any separate corporation or governing body for this professional class; and we cannot but think that the general practitioner himself must on reflection see the injurious tendency of any institution, which would be likely to alienate him from those bodies, the character of which tend to give him rank and estimation, and the constitution of which ought to provide inducements and facilities, as is the case in the projected class of Honorary Fellows of the College of Surgeons, for the continual ascension of the general practitioner into the higher grades of the profession, wherever his talents and attainments qualify him for it. It must be likewise remembered that if any such board were established, it must consist of those General Practitioners who live in London. Now in respect of the higher departments of the profession, it is abundantly clear that those of the greatest attainments will be found in the great metropolitan mart of fame and fortune; but for that very reason, the pre-occupation of the posts of honor, namely, it is most likely, as indeed is the fact, that in the class of general practitioners those most eminent in practice, and the most sedulous cultivators of their profession as a science will be found elsewhere than in the metropolis. How little too any hope of founding such an institution in London, in accordance with the requirements of a liberal profession, can be entertained,—will be found in the fact that no feasible means have been, or can perhaps be, devised of separating it from the city guild and *trading company of Apothecaries*. If indeed the medical examinations of general practitioners were conducted by the College of Physicians, and some of the most eminent of the class of general practitioners were selected as *assessors*, it might be with the especial duty of conducting the *pharmaceutical* part of the examination, and the change might be hailed as conferring a legitimate distinction on the individuals, and calculated to exert a beneficial influence prospectively on this indispensable class of the profession. We would wish that a rank and character should be secured to the general practitioner, as a member of a liberal profession, which will be cheerfully conceded to many individuals no less eminent in practice than honourably known as sedulous cultivators of science, but which cannot be granted to them as a body, except under the conditions of an enlarged education, and of the entire separation of their pursuits from any admixture with *Trade*." 70.

Such are the opinions of Mr. Green on Medical Reform. We disclaimed any intention of stating our own views, and conclude, therefore, by recommending those of our author to the candid judgment and criticism of our readers.

ON THE NATURE AND TREATMENT OF STOMACH AND URINARY DISEASES; BEING AN INQUIRY INTO THE CONNEXION OF DIABETES, CALCULUS, AND OTHER AFFECTIONS OF THE KIDNEY AND BLADDER, WITH INDIGESTION. By *William Prout*, M.D. F.R.S. Fellow of the Royal College of Physicians. Third Edition, much enlarged. London: John Churchill, 1841.

[Second Notice.]

THE portion of Dr. Prout's able work which treats of the Diseases of the Stomach and Urinary Organs is divided into two books, the first treating of Functional Diseases, the second of Mechanical Diseases.

OF FUNCTIONAL DISEASES.

This Book is divided into Five Chapters, comprising the following subjects.

CHAP. I. General observations on the Pathology of Aqueous assimilation and secretion.

Of an Excess and Deficiency of urine.

CHAP. II. General observations on the Pathology of Saccharine assimilation and secretion.

Section a. Of Saccharine urine. *Diabetes*.

b. Of Oxalic acid; Oxalate of Lime.

c. Of Lactic acid.

CHAP. III. General observations on the Pathology of Albuminous assimilation and secretion.

Section a. Of an Excess and Deficiency of Urea.

b. Of Albuminous urine.

c. Of Lithic acid.

d. Of Cystic oxide.

CHAP. IV. General observations on the Pathology of Oleaginous assimilation and secretion.

Section a. Of an Excess and Deficiency of fat.

b. Of Cholesterine and its deposits, &c.

CHAP. V. General observations on the Pathology of the Incidental Mineral matters entering into the composition of organised bodies.

I. GENERAL OBSERVATIONS ON THE PATHOLOGY OF AQUEOUS ASSIMILATION AND SECRETION.

Dr. Prout adopts the old distinctions of *urina potus*, the urine voided after drinking, and moderate eating, which however, he prefers calling the *urine of assimilation*—and *urina sanguinis*, that liberated from the blood, after the primary processes of assimilation have been completed.

Fluids, observes Dr. Prout, taken into an empty stomach usually soon find their way to the kidneys. If therefore, for any purpose, we wish to produce a large flow of urine, we ought to administer fluids when the digestive processes are quiescent; as, by giving them at such times, we are not only more likely to effect our purpose, but avoid the risk of deranging the assimilating processes. The same remark applies to the employment of mineral waters, especially mineral waters of low powers, and requiring to be taken in large quantities. The same cautions with regard to the *time* of administration, are applicable to those mineral waters which are strongly impregnated with neutral saline matters, and which chiefly exert their effects on the bowels as purgatives. Such waters should be taken at periods when they are least likely to interfere with the assimilating processes; otherwise they often do more harm than good.

Farther on, Dr. Prout adverts to the circumstances that attend the appropriation of water. This is gradual. Thus the alimentary matters, during their *reduction* into chyle, are gradually and slowly combined with water; and that, on the other hand, the chyle, during its conversion into blood, is gradually *raised* or separated from its associated water. The supply of water, therefore, must be duly regulated.

"In the healthy condition of the stomach and of the system in general, when a *natural* thirst indicates the want of drinks; fluids taken into the stomach, even during the digestive processes, interfere with these processes much less than might be expected; for, by a beautiful provision, the superfluous portion of the fluids is removed from the stomach almost as fast as it is introduced. The fluids thus removed, however, are liable to be occasionally charged with unassimilated crudities, which, in subsequently passing through the kidneys, produce more or less derangement of these organs. On the other hand, when fluids are taken into the dyspeptic stomach during the digestive processes, they are apt to be retained; and after giving occasion to flatulent distension, and to many other annoying symptoms, they are either tardily taken into the system, and thrown on the kidneys loaded to excess with unassimilated matters; or they sometimes escape by the bowels; or are ejected by vomiting. Hence, as a general rule, the impropriety of drinking too much during a meal." 9.

The *urine of assimilation* is exceedingly variable in its properties. Generally it is more or less dark-coloured, above the average specific gravity, and becomes turbid on cooling, from a deposition of lithic acid; or from a mixture of lithic acid with various other matters, some of which have been taken into the stomach as food, and have passed through the system unchanged, more particularly in dyspeptics. The *urina sanguinis*, voided long after food has been taken, is the standard urine, and shews more particularly the condition of the kidneys and of the system in general. So, in examining the urine, two specimens are required; viz. the urine voided after a principal meal, as after dinner; and the urine voided in the morning before breakfast; from which two extremes we may generally obtain all the information that the urine is calculated to furnish.

Dr. Prout observes that *excess* or *deficiency of urine*, considered in reference to disease, mark opposite conditions of the system—the former constantly accompanying those complaints connected with a peculiar state of nervous irritability—the latter usually waiting on an inflammatory state of the system.

II. GENERAL OBSERVATIONS ON THE PATHOLOGY OF SACCHARINE ASSIMILATION AND SECRETION.

Dr. Prout has long paid great attention to this class of disorders, and it still occupies his mind. He reminds the reader: *first*, that saccharine aliments cannot in their natural state form constituent principles of living animal bodies, but must previously undergo certain changes of a more radical character than either of the other primary alimentary principles. *Secondly*, that such conversion of the saccharine aliments is a distinct function, among the earliest to exist and among the last to be extinguished. *Thirdly*, that this function is twofold, primary and secondary. *Fourthly*, that the gelatinous tissues may be regarded as the representatives of the original saccharine aliments. These considerations afford a clue to the following points, which Dr. Prout treats of *seriatim*.

1. That both the primary and secondary assimilating processes are liable to be deranged, not only in degree, but in kind; and that the derangement of one of the classes of assimilating processes necessarily more or less involves the other. 2. That one of the derangements of the primary assimilating processes consists in the want of power to assimilate certain forms of the saccharine principle, (*e. g.* sugar;) while other derangement of the same processes consists in the imperfect or mal-assimilation of the saccharine principle, by which various unnatural bodies, *e. g.* oxalic acid, lactic acid, &c. are produced instead of albuminous matters. 3. That the derangements of the secondary assimilating processes resulting from, or connected with, the derangements of the primary assimilating processes above mentioned, consist in the imperfect development of the living animal tissues, and particularly of the gelatinous tissues; and that, during the further changes which such imperfectly developed tissues undergo, various unnatural and poisonous matters are generated, the nature of the greater part of which is unknown to us; though among them there appear to be occasionally included matters similar to, or identical with, those matters, developed during the primary assimilating derangements, viz. oxalic acid, lactic acid, &c. 4. And lastly, That the causes producing derangements, both of the primary and secondary assimilating functions, are partly innate, and consists in a peculiar predisposition to such derangements; and partly exciting, and consists in exposure to accidental circumstances to which all individuals are subject; such as depressing passions of the mind; a residence in certain unhealthy localities; long-continued errors in diet, &c.

1. It can easily be conceived that the primary assimilating functions may be disordered, and that their derangement will disturb the secondary. On this we need not dwell.

2. That the primary assimilating organs are, under some circumstances, unable to assimilate the saccharine principle is evident from the fact that, in diabetes, sugar has been repeatedly ascertained to exist in the sanguiferous system; a fact unequivocally demonstrating that the assimilating organs had failed to convert the saccharine aliment into the constituent principles of the blood.

In diabetes, says Dr. Prout, the function by which the saccharine principle is converted into the constituents of chyle, is suspended or destroyed. In

other diseases, however this important function is not destroyed, but *erroneously exerted*; and the consequence is, that many principles, some of them of a poisonous character, as for instance, the oxalic acid, are developed from the saccharine principle during the assimilating processes. That oxalic acid *must* be occasionally developed in the system is evident from the fact, that this acid is found in the urine when it has not been taken into the stomach. Now, when we consider that oxalic acid, taken into the stomach, passes through the kidneys unchanged; and that those who take sugar in excess are often liable to oxalate of lime concretions; there can be little doubt that the oxalic acid found in the urine is occasionally developed in the primary assimilating organs, and most probably in the stomach itself.

3. There is reason to believe that, in the advanced stages of diabetes, sugar is developed during the secondary assimilation of the gelatinous, perhaps of the albuminous and oleaginous tissues. Nor can it be doubted that the converting function of the secondary assimilating processes is liable to be *erroneously exerted*, and to give birth to various unnatural products. Dr. Prout advances the following considerations to establish the probability of the oxalic and lactic acids being included among them.

"It will be shown hereafter, that the oxalic acid in small quantity occasionally passes through the system, without producing any remarkable external symptoms of its presence; it will be also shown, that in many other instances the presence of oxalic acid in the system is accompanied by certain cutaneous and other diseases more immediately connected with the gelatinous tissues. Now, although we cannot *prove* that the oxalic acid in the latter case is the result of the same derangements of the secondary assimilating processes which give immediate occasion to the cutaneous affection; yet when, in addition to the preceding facts, we further take into account the relation of the gelatinous to the saccharine principle; no supposition appears more probable, than that *one* of the derangements of the secondary assimilation of the gelatinous principle may consist in the development of oxalic acid. But if this reasoning be deemed inconclusive with respect to the development of the oxalic acid during certain derangements of the secondary assimilating processes; its validity, perhaps, will scarcely be questioned with respect to the development of the lactic acid during certain other derangements of the secondary assimilating processes; for on what other supposition can we explain the presence of those enormous quantities of lactic acid which occasionally exist in the system during rheumatic and hectic fever? Will any one contend that all this lactic acid is, in such instances, developed in the stomach?" 18.

Among the other unnatural principles occasionally developed from the saccharine, or from the gelatinous tissues, Dr. Prout thinks we may enumerate many matters generated in the miasmatic and contagious fevers of tropical climates, and even of our own. He refers to the *black vomit*, which is often powerfully *acid*. He thinks, too, that organic diseases in general, but particularly those of a deep-seated and malignant character, appear to be more frequently connected with derangement of the gelatinous, (*i. e.* of the saccharine,) than of either the albuminous or oleaginous radicals.

4. Dr. Prout makes some remarks on the *causes* of mal-assimilation of saccharine principle.

The internal *predisposing* causes are generally innate or inherited. Previous attacks, too, predispose to fresh.

Among the external *exciting* causes, one of the most frequent is exposure

to cold, and especially to *cold and moisture*. And Dr. Prout thinks that *malaria* has a good deal to do with diabetes. Perhaps the following observations may be considered as bordering a little on the fanciful:—

“Every one is acquainted with the familiar fact, that the most frequent and striking morbid appearances presented by the urine from slight causes, (such as a cold, indigestion, &c.) are the common lateritious sediments. Now, the first circumstance that attracted my notice after the prevalence of the Asiatic cholera, was the disappearance of these sediments from the urine. The absence of these sediments was at first considered to be accidental; but when, day after day, the same occurrence took place, I was induced to inquire attentively into the circumstance, with the view, if possible, of ascertaining the reason. On closer inspection, it was found that the urine of every individual examined, whether in apparent health or otherwise, not only presented the same absence of sediment; but also assumed that peculiar appearance, which I had been accustomed to consider as characteristic of the presence of oxalic acid. As I had always previously found the oxalic acid diathesis of unusual occurrence in London, I was much struck with the phenomenon; and on reflection it occurred to me, that it might be referable to the same unknown cause which was then producing cholera. I was led to this notion from the analagous effects above mentioned produced in the urine by malaria; and also by another curious fact, noticed below, which likewise took place about the time the Asiatic cholera first made its appearance, viz. a positive increase in the weight of atmospheric air, similar to what might be supposed to be produced by the diffusion of a heavy gaseous principle through the lower regions of the atmosphere. My conclusion therefore was, that the cause of the phenomenon in question, as well as of the cholera, was a poisonous body analagous to malaria, whose high specific gravity and feeble diffusive powers kept it near the earth's surface, along which it insensibly crept, particularly in low and damp situations. Whether this conclusion was legitimate or not, others must decide. I do not think the point worth contesting: but shall briefly mention the following additional facts, connected with the subject.

During the prevalence of the above condition of the urine, I likewise noticed, in almost every individual, an unusually acid state of the saliva, and of the cutaneous exhalations; such as I had never, indeed, before noticed, except in the last stages of chronic diseases: or in malarious affections. Besides these circumstances, I also saw, about the time the cholera prevailed, and a little afterwards, more cases of oxalate of lime renal calculi, and of formidable hæmorrhage from the kidneys, &c., than I had ever previously seen during the whole of the long period that urinary diseases had occupied my attention. As the cholera disappeared, the above state of things gradually subsided; but I have sometimes imagined that the urine has never completely recovered its former condition. Indeed, during the last winter and spring, lithic acid deposits were comparatively rare in London; and the urine assumed much the same appearance as during the prevalence of cholera, though in a less marked degree.” 23.

At the period in question, people generally were particular in their diet, ate more animal food than usual, or, at all events, less vegetable food, and, probably, consumed more brandy and port. Whether this had any thing to say to the condition of their urine we leave to Dr. Prout to determine.

Among the remote causes of saccharine derangements, may be mentioned *diet*. A free consumption of sugar predisposes to saccharine diseases, as well as to the oxalic acid diathesis. So do the sorrel and rhubarb plants, and Dr. Prout reprobrates the rhubarb puddings and pies of Spring. Of *tobacco* he speaks in the unkindest terms.

“Tobacco disorders the assimilating functions in general, but particularly, as

I believe, the assimilation of the saccharine principle. I have never, indeed, been able to trace the development of oxalic acid to the use of tobacco; but that some analogous and equally poisonous principles (probably of an acid nature) is generated in certain individuals by its abuse, is evident from their cachectic looks; and from the dark, and often greenish yellow tint, of their blood. The severe and peculiar dyspeptic symptoms sometimes produced by inveterate snuff-taking are well known; and I have more than once seen such cases terminate fatally with malignant disease of the stomach and liver. Great smokers also, especially those who employ short pipes and cigars, are said to be liable to cancerous affections of the lips." 24.

We hope our smoke-producing youth will attend to this.

Of Diabetes.

Dr. Prout, to prevent confusion, proposes to restrain this term to affections in which the urine is *saccharine*—designating an excessive flow of urine unattended with sugar—*Diuresis*.

The specific gravity of diabetic urine has been stated to vary from 1·020 to 1·050. But Dr. Prout has once or twice seen it as low as 1·015 and often as high as 1·055, and higher. The quantity of urea is sometimes much diminished, though Dr. P. has never seen it absent; and in some instances, urea is said to exist in diabetic urine in greater proportion than natural. Lithic acid also is usually found in saccharine urine in greater or less quantity; and in favourable cases of the disease, the quantity of this acid is often very considerable. The usual saline matters existing in the urine are met with in diabetic urine in nearly the same *relative* proportions as in health; but the *absolute* quantity of saline matters, viewed in relation to the quantity of urine passed, is much diminished. Sometimes diabetic urine contains a little blood; and not unfrequently albuminous matter, analogous to that of chyle.

Dr. Prout gives the following hint for ascertaining the period when the disease commenced.

"The commencement of diabetic attacks can seldom be accurately determined; but by inquiring minutely as to the period when the urine *was last observed to be turbid*, I have several times traced attacks very nearly to their origin. In such instances, patients have usually stated, that at some former period, the continued turbidity of the urine was such as to attract their observation; and on being questioned as to the supposed cause of such turbidity, some have ascribed it to exposure to cold; others to an attack of gout or rheumatism; others to disordered health from mental anxiety; &c. In most instances, the cessation of this turbidity was not accurately noticed; in a few, the termination was observed to take place rather abruptly; and the urine, on becoming clear, was likewise observed to become increased in quantity. Now it is probable that at the time the urine became clear, its saccharine condition commenced, or at least became confirmed; though, in general, the increased flow of urine was not so great, as to attract the patient's attention for several weeks; sometimes for several months, after this period." 29.

Dr. Prout gives a succinct account of the symptoms and progress of the malady; and comments on some of the former.

Thirst is worst in those who drink most. The skin is occasionally *moist*. There is, in some instances, inflammatory redness at the external orifice of the urethra; and sometimes phymosis.

Emaciation is not an absolutely constant symptom. Dr. Prout attended one patient who weighed twenty-three stone and a half, and another who weighed upwards of seventeen stone. He states that he knew a gentleman who long laboured under confirmed diabetes, and who recovered so far as to marry and to have two children; though the saccharine condition of the urine never left him. Indeed a saccharine condition of the urine exists in dyspeptic and gouty individuals much oftener than is supposed; and hundreds pass many years of their lives, with this symptom more or less constantly present, who are quite unaware of it, till the quantity of urine becomes increased.

Termination of Diabetes.—"Phthisis, as already stated, is the most frequent. Besides phthisis, however, I have seen diabetes prove fatal by disease of the liver and jaundice; by apoplexy; by a peculiar affection of the stomach, brought on by improper food, or by over-distension; by acute gastritis induced by taking cold fluids when heated; by inflammatory fever excited by exposure to cold, and rapidly assuming the typhoid character; &c. Occasionally diabetes is said to terminate in incurable dropsy, and in various other affections. In short, a great many circumstances, which would not affect a sound constitution, often prove fatal in this disease. Hence a diabetic individual may be considered as existing on the brink of a precipice; and the general prognosis must be always unfavourable." 34.

Causes.—The lower animals seem to be exempt from diabetes—a curious, if a correct fact. A *predisposition* to the disease is more frequently inherited than acquired. Dr. P. has seen more cases of diabetes individuals of the sanguine temperament with light or reddish hair, than in any other. The disease, however, occurs in all temperaments; and perhaps next in frequency to the sanguine, in the melancholic temperament. In strumous individuals, with dark hair and eyes, fair skin, &c. diabetes often assumes its most unmanageable and fatal form. Diabetes is less frequent in women than in men; and rarely occurs in infancy or in old age, though there is a modification of it in infancy, described by Dr. Venables. Yet a predisposition may be acquired by a residence in a cold and damp situation, or in a malarious district, particularly if at the same time conjoined with a poor and unwholesome diet, or the too free use of sugar, &c.; also by venereal excesses; by the abuse of mercury; and, in short, by any cause having a tendency to sap the foundation of organic life; and more especially of the processes of assimilation.

The most frequent *exciting* causes that Dr. Prout has seen, have been exposure to cold; attacks of rheumatism and of gout; the drinking of cold fluids while heated, mental anxiety or distress arising from a variety of causes, such as a sudden reverse of fortune, &c. But others have blamed cider, injuries of the back, affections of the skin and cellular tissue.

"Were I permitted to draw a general inference from my experience, I should say, that diabetes usually *follows* cutaneous affections; and accompanies (perhaps *precedes*) the affections of the cellular tissue. Thus I have several times heard patients observe, that they were formerly subject to eruptions in various parts of the body, but that such eruptions disappeared after the diabetic complaint became established; nor do I remember more than one instance, in which diabetes actually accompanied a severe cutaneous affection. On the contrary, diabetes very frequently, (as far as my personal experience goes,

always) accompanies carbuncles, and malignant boils or abscesses allied to carbuncles. This is a fact mentioned by several of the older writers; and is of great importance to surgeons, who usually have the management of these affections.' 36.

Dr. P. mentions a case in point. He thus states the *proximate cause* of diabetes;—

"When *crystallised* sugar is taken into the stomach by a diabetic individual, it is reduced to a *low* state, remains more or less unassimilated, and passes through the system to the kidneys, by which organs (being already crystallisable) it is separated unchanged.

When *organised* saccharine principles, as farinaceous matters, &c. are taken into the diabetic stomach, they are in the first place reduced to the form of *low* sugar: part of which low sugar is assimilated as in the healthy stomach: while another part is modified or remains unassimilated. The portion that is assimilated is applied to the purposes of the economy: the portions modified and unassimilated pass together through the system to the kidneys, by which glands, the portion modified is disorganised, and finally appears in the urine as crystallisable sugar, along with the portion originally remaining unassimilated in the stomach. The same remarks are applicable to gelatinous, and in extreme cases, perhaps, to albuminous and oleaginous aliments. The *secondary* assimilating processes in diabetic individuals participate in the derangements of the primary processes just detailed;—that is to say, the gelatinous tissues are either reduced to sugar, and thus not assimilated at all; or they are imperfectly assimilated; or they are mal-assimilated; in all which conditions, the saccharine principle derived from the gelatinous and other tissues, may be supposed to pass through the system to the kidneys: by which organs, like similar matters brought from the stomach, the various modifications of the saccharine principle are further disorganised, and converted into crystallisable sugar."* 37.

Dr. Prout enumerates the favourable and unfavourable symptoms in diabetes. Among the *favourable* may be enumerated, a moderate flow of urine of a specific gravity not higher than 1035; the appearance in the urine of lithic acid either in its amorphous or crystallised form; the recent appearance of the disease, and absence of thirst; the retention or gain of flesh and strength; and more than all, immunity from organic disease, more especially from organic disease of the lungs. On the contrary, when the flow of urine is permanently excessive, and of high specific gravity; or when this secretion is pale coloured, opalescent, and serous; when the thirst, emaciation, and debility are extreme; or when organic disease, particularly of the lungs, is present, the chance of recovery is much diminished. But when, as is too frequently the case, several, or all of these unfavourable symptoms co-exist; the chance of recovery is not only diminished, but *absolutely hopeless*.

The *post-mortem* appearances in diabetes are too inconstant to permit us to consider them as more than concurrent or consequent affections. The most frequent appearances which Dr. P. has noticed have been rather of a

* "These views seem to be almost demonstrated by the important observations of Mr. M'Gregor, before alluded to. Mr. M'Gregor found that sugar is not only developed from vegetable, and animal matters in the stomach; but that it exists in the blood, saliva, &c. and even in the alvine evacuations of a diabetic patient."

chemical character:—First, an enlarged, flaccid, and occasionally a congested state of the kidneys; a section of which organs, when first removed from the recently dead body, has usually assumed, on exposure to the air, a peculiar deep orange-red tint, difficult to be described; Secondly, a gorged condition of the veins terminating in the portal system, particularly of the veins of the mesentery; and an unusually dark-coloured and fluid condition of the venous blood throughout the assimilating organs; Thirdly, but not so constantly, a vascular state of the mucous membrane of the stomach, and upper portion of the alimentary canal.

Treatment.—The principle inculcated by Dr. Prout is this—Diabetes is a form of dyspepsia; and it ought always to be considered in a twofold light; as a simple saccharine condition of the urine, without any increase in its quantity, and as complicated, with a preternatural flow of that secretion. But, at present, the only means we possess for improving the quality of the urine are remedies that lessen its quantity.

Diet is the great thing. Dr. Prout does not approve of one exclusively animal, but considers a certain proportion of farinaceous matters proper. The ratio must vary with the assimilating powers of the patient. Of farinaceous matters, the *high* or *strong*, as the farina of wheat in the shape of bread, &c., seem to be most easily assimilated. The *low* kinds of farinaceous matters, as arrow-root, potatoes, &c., (with the exception perhaps of rice,) seem to be reduced to a species of sugar, more difficult of assimilation than the sugar from wheat-flour, &c., and in general, therefore, should be avoided. Every variety of the saccharine principle in its *crystallisable* form, is absolutely inadmissible as an article of food in diabetes. This rule excludes therefore, at once, all fruits, whether subacid or sweet; as well as every compound, natural or artificial, into which sugar enters. Dr. P. has known a few pears undo, in two or three hours, all that had been gained in months. Allow no latitude to patients. Like Dr. Johnson they can abstain, when they cannot be abstemious.

And *quantity* should be attended to. As a general rule with respect to diet, it may be said that a quantity, greater or less according to circumstances, but always strictly regulated, should be taken at periods of four, five, or six hours; and that at the time of taking solid food, and for an hour or two afterwards, all fluids should be abstained from as much as possible. Dr. P. would say that mutton or beef, plainly cooked, and particularly mutton-chops or beef-steaks, rarely done, should be taken twice in the twenty-four hours; and that the other meals should consist of any simple article that can be prepared from farinaceous matters with milk, eggs, &c. only. Sometimes oleaginous matters, more particularly butter, agree well. When the reducing function is impaired, as happens in a few instances, a system of diet less solid, and consisting of animal matters reduced to the pulpy state by stewing after the French fashion, will be more appropriate.

The management of drinks is as important as that of solids. A certain indulgence must be allowed.

“The Bristol Hotwell, and other waters containing carbonate of lime in solution, have been long celebrated in diabetic affections; and, as Dr. Marsh observes, they appear to quench the thirst in those affections better than most other mere diluents. Allied to these are waters artificially impregnated with

lime or magnesia; as lime-water, which, either alone, or with milk, has been a favourite remedy in diabetes with some writers; the same may be said of water containing magnesia held in solution by carbonic acid, &c. Waters containing fixed alkalis, and their salts, are generally too diuretic in their effects to be recommended in this affection; yet when saturated with carbonic acid gas, and held in the mouth for a few seconds without swallowing them, they often remove or mitigate thirst better than most other fluids. All the stronger saline waters, from their diuretic proportions, should be carefully avoided. As a simple diluent, I am disposed to think very highly of distilled water. The use of water, however, in all its forms, should be sparingly allowed, as it is exceedingly liable to be abused, and various animal decoctions, milk, &c.; should be taken instead. When the patient has been in the habit of taking fermented liquors, I have been accustomed for some years past to recommend sound porter in preference to wine or spirits. The *quantity* must be determined by the circumstances of the patient; but the minimum quantity should be rarely surpassed. With very few exceptions, I have seen more relief from thirst, and more support given by porter in diabetic cases, than by any other means whatever. As general rules, also connected with the subject of fluids, it may be observed; first, that as the sudden abstraction of fluids in diabetic cases is sometimes followed by unpleasant consequences, the quantity should be *gradually* diminished; secondly, that in order to induce the patient, whose craving is generally after *cold* drinks, to take as little as possible, all fluids should be recommended in a *tepid* state; and lastly, that fluids should be taken at those periods in preference to others, when the stomach is not loaded with solid food." 45.

The *remedial treatment* must be conducted on general principles. Blood-letting is useful at the commencement. *Purgatives* Dr. P. has only found of use, as simply regulating the bowels, and he excludes the saline class, with the exception of phosphate of soda. *Sudorifics* are important.

Dr. Prout speaks highly of *opium*. Yet he believes that they who have stated that it *cures*, have over-praised it. Dover's powder is usually the best form, but it may agree worse than other preparations.

"Sedatives are often advantageously combined with astringents and tonics in the chronic forms of diabetes. Thus, opium may be associated with tannin, or with its modifications, catechu and kino; also with the mineral acids, and particularly with the sulphuric acid, either alone, or in combination with quinine, iron, zinc, copper or alumine. I have occasionally had recourse to all these combinations; but in general have preferred the supersulphate of quinine or of iron; and at the same time made it the rule to do with as little opium as possible. The blue phosphate, and the carbonate of iron, are also excellent remedies. Of the phosphate of iron in particular I am disposed to think very favourably; but I have been disappointed with the use of phosphoric acid; which has not in my hands produced the good effects some have ascribed to it; even when very freely and perseveringly administered." 48.

When diabetes is complicated with other diseases, *they* must be considered in *its* treatment. This is necessary more particularly in its early stages. Such a complication is frequently hepatic disorder or disease, and this leads our author to make some observations on *mercury*. He deprecates its abuse—the indiscriminate and destructive calomel and black-draught system, which, though in its glory twenty years ago, is by no means obsolete now. Dr. Prout lays down these maxims for its use.

First, Mercury ought in no instance to be administered for those slight deviations from health which can be readily removed by safer expedients.

Secondly, Mercury ought to be cautiously administered to strangers; and to those on whose constitution its effects have not yet been ascertained.

In the following observations we perfectly concur, and, indeed, we are in the habit of putting the case in this very manner to our own patients. We wish all medical men and the public would take the same rational views.

"The stimulating effects of mercury may be analogically illustrated by the stimulating effects of dram-drinking. As the stomach accustomed to ardent spirits will scarcely tolerate any weaker beverage; so the liver, accustomed to the stimulus of mercury, will hardly respond to any other influence. Those, therefore, who in early life have on all trivial occasions resorted to the powerful stimulus of mercury, like early dram-drinkers, are usually obliged to persist in the baneful habit. The truth of this analogy will be scarcely questioned; for the most superficial observer must have noticed, that patients who habitually take calomel are more than ordinarily subject to periodical congestions, or *biliary* attacks as they are termed; and that such biliary attacks will rarely yield to any other remedy than calomel. Nor is the insensibility to gentler expedients, thus too often produced in the soundest constitutions by the use of mercury, its only fault; the habitual use of this remedy is capable of exerting positive mischief on the assimilating functions and on the kidneys of some individuals; as will be shown in subsequent parts of this volume. Moreover, those who are under the influence of mercury in a degree far short of salivation, are notoriously liable to take cold, rheumatism, &c., from slight exposure; and various formidable and fatal diseases, as phthisis, &c., can be often distinctly traced to such exposure under the influence of mercury." 51.

Mercury is a very proper medicine when there is a disease for which it is appropriate, to combat, and the patient's constitution is adapted for it. In many chronic diseases mercury is beneficial, but not in the ratio of the largeness of the dose. Our author has never seen mercury do good in diabetes; almost invariably it has been mischievous. This mischief has been displayed in various ways connected with the urinary secretion; that is to say, the specific gravity of the urine has been increased; or the secretion has become serous, or otherwise deteriorated. Moreover, when the effects of the mercury have ceased, the patient has usually become worse than before; and the disease, after assuming its most unfavourable form, has rapidly advanced to its fatal termination. Nay, when the disease has been partially got under, he has seen a few grains of blue-pill inadvertently given, in the short space of a day or two, double and even triple the quantity of urine; and thus the benefit, to obtain which perhaps months had been required, has been lost as it were in a moment, and the patient has been reduced to a worse state than he was in at first.

Dr. Prout is inclined to limit the use of mercury in diabetes to the following cases:—First, general inflammatory or phlogistic fever; Secondly, acute or chronic inflammation of the liver; and Thirdly, the temporary congestion apt to occur in those individuals, who have been long accustomed to the stimulus of mercury.

1. Acute inflammation is rare in diabetes. When such does follow exposure to cold, the stage is of brief duration and rapidly passes into the adynamic form, with a disposition in the inflamed parts to become gangrenous. The acute stage of such attacks therefore is so transient, that it usually disappears before medical advice can be obtained; otherwise, if promptly met at the very beginning by free abstraction of blood, and the judicious appli-

cation of calomel and opium, there is a chance that the progress of such attacks may be arrested. But if the peculiar adynamic state become once established, no treatment seems to avail.

2. Our author has seen chronic inflammation of the liver with congestive enlargement and jaundice, and too frequently organic disease, accompany diabetes. In the treatment of complications of this nature, the rule to be attended to, is to do everything in the first place that can be done by the aid of other expedients; so as to leave that only to be done by mercury, which mercury alone will accomplish. General and local activity, therefore, should be reduced as speedily and effectually as possible, by the abstraction of blood, by blistering, and by other well-known expedients; and when these means have effected all they are capable of doing, the aid of mercury may be resorted to. The peculiar circumstances of the case must, in some degree, determine the mode of employing this active remedy; but in general as little as possible should be given internally, and the form of inunction, plasters, &c., should be preferred. When given internally, mercury should, for the most part, be conjoined with opium; and of the different preparations of the drug, perhaps calomel so associated constitutes, on the whole, the least objectionable mode of administration.

3. The occasional use of alternate doses of mercury, either combined with sedatives or with mild purgatives, or with both, according to circumstances, is beneficial in some constitutions; and particularly in those who have always from early life been previously accustomed to the stimulus of mercury.

The principles of treatment, which have been detailed, being adhered to Dr. Prout has seen a few cases in which the saccharine quality of the urine has entirely disappeared; and a very great number of cases, in which the symptoms have been so far subdued as to give little trouble to the patient. But the latter must consider himself through life an invalid, and submit to the restrictions and employ the care which such a state demands.

Diabetic Diuresis in Young Children.

In young children, says Dr. Prout, as in adults, diuresis is a symptom of very different forms of disease; in all these diseases of the urine, as well as being excessive in quantity, is more or less unnatural. Thus in infantile diuresis the urine almost always contains albuminous matters. In other instances an excess of the urea, or of the phosphates, is present; while in a few cases saccharine matters, more or less perfectly developed, exist either alone, or in conjunction with the above or other unnatural ingredients.

“The saccharine diuresis of young children usually commences soon after the period of weaning. From having been up to that time healthy, the child begins to get dull and inactive, and to daily lose flesh. The skin also becomes harsh and dry, and feels hotter than natural. As the disease proceeds, the bowels become irregular, and the motions assume an unnatural, often greenish appearance; the abdomen also usually becomes prominent, so as to lead to the suspicion of mesenteric disease. The pulse is quick, and denotes great irritability. In connexion with these symptoms, the quantity of urine begins to gradually increase, at first so slowly as to escape notice; but at length the quantity becomes so great, and the accompanying thirst so urgent, that these circum-

stances can no longer be overlooked. The urine is sometimes quite limpid; at other times of a pale straw or greenish colour; sometimes opalescent or milky. The specific gravity fluctuates considerably even in the same individual; and though it often falls within the diabetic range, the specific gravity seldom reaches the high point of the diabetic urine of adults. From the almost invariable presence of albuminous matter more or less perfectly developed, and which acts as a ferment, the diabetic urine of children is apt to undergo rapid changes from saccharine or acetous fermentation, or from both; and soon begins to emit an odour somewhat resembling sour milk.

This disease occurs most frequently in the children of profligate, dyspeptic, and gouty individuals, more especially in large towns; while the immediate exciting causes in such predisposed individuals are commonly want of air and proper nourishment; or injudicious management. The disease is of a formidable nature, and generally proves fatal; particularly if its nature be overlooked at the outset; and it be in consequence improperly treated. The treatment consists, in the first place, in removal to a purer air, or to the sea; and in the employment of a regulated and nutritious diet, consisting, as far as the tender age of the little patient will admit, of animal matters; at least, sugar and all sweet articles should be avoided. The state of the bowels should be attended to; and while calomel purges should be most carefully shunned, some gentle alterative, as the *hydrarg. cum creta*, combined with rhubarb and magnesia; or the carbonate of soda, calumba, &c. may be often given with advantage. The warm sea bath, with friction upon the skin, &c., will be also useful. The quantity of fluid taken should be strictly limited; and in addition to the other means, such tonics as appear to be suited to the age and circumstances of the patient, may be given with advantage. Dr. Venables, who first drew attention to this disease in children, recommends the use of the blue phosphate of iron; and this or the carbonate of iron, combined with a little magnesia or calumba, is often highly useful." 58.

Of the Oxalic Acid Diathesis.

When oxalic acid is produced in the system, the urine is generally transparent, and remarkably free from sediments; of a pale citron-yellow, or greenish hue; and of moderate specific gravity; that is to say, the specific gravity usually oscillates about 1020 as a mean point, but is often less than this—a circumstance chiefly referable to variations in the quantity of the urine secreted; which is frequently above the healthy standard.

These properties of the urine may induce suspicion, but judgment must not be definitely pronounced on them.

The symptoms are rather of the irritable or nervous class, than of the congestive or inflammatory. Dyspepsia, attended with flatulency, is complained of, and both the bowels and biliary secretion are capricious and irregular. In individuals of the sanguine temperament, particularly when subject to cutaneous diseases, the constitutional symptoms are usually manifested in the form of extreme irritability of temper and manner; more especially if the cutaneous affection has, from any cause, been suddenly repelled. In individuals of the melancholic temperament, on the contrary, the constitutional symptoms usually partake of the desponding and hypochondriacal character.

When the obvious presence of the small calculus in the kidney or bladder leaves the nature of the case no longer doubtful, and occasions for the first time the appearance of blood in the urine; the occurrence, whether accompanied by pain or not, is apt to forcibly attract the patient's attention. He

forgets all else. A nephritic attack occurs, his troubles pass away with his calculus, and he recovers, for a longer or a shorter period, his former state of health.

The oxalic acid diathesis is sometimes associated with serous urine, and with organic disease of the kidney, particularly in young subjects; in which case the urine is generally opalescent and of a greenish tint. When a great deal of saccharine matter is consumed as food, the urine is often of considerable specific gravity, and contains sugar as well as oxalic acid. Moreover when sugar, and particularly oxalic acid, are thus freely taken, oxalic acid may be frequently detected in the urine; and the sediments deposited almost always contain more or less of oxalate of lime.

Sometimes the symptoms are very slight—sometimes they are prominent. Hæmorrhage from the kidneys is perhaps more frequently produced by oxalate of lime, than by any other form of concretion. This may depend in part on the peculiar form of the calculus; but the chief cause probably lies in the nature of the diathesis. But amongst the hundreds who suffer from this, a few only suffer from calculus.

Causes.—Hereditary predisposition is not so common as in diabetes. Syphilis is reproached by Dr. Prout as one cause. The oxalic acid diathesis occurs in all temperaments; but individuals of the sanguine temperament on the one hand, and of the melancholic on the other, seem to be most liable to it. When the diathesis is strongly marked, the skin in all temperaments is apt to assume an unnatural appearance difficult to describe, but the colour of which may be said to vary from dull greenish yellow in the sanguine, to dark olive or livid in the melancholic temperament. Both classes of individuals also are often liable to boils, which in old and enfeebled habits are apt to degenerate into carbuncles.

The periods of life most subject to it seem to be between two and twenty-four, and forty and sixty-five years of age.

The most effective of the *exciting* causes of the oxalic acid diathesis is a residence in a damp and malarious district. But it is not brought on by mere exposure to cold, nor rheumatism, nor gout. It often, however, accompanies chronic rheumatism, and occasionally follows gout. The abuse of sugar has frequently produced it—so have rhubarb tarts, &c.—the depressing passions will give birth to it—cutaneous affections frequently attend it.

Prognosis.—In slighter cases there is no affection more manageable, if properly treated. In severe cases, particularly if complicated with organic disease, there is no affection more formidable, nor more apt to take on a malignant and intractable character.

Post-mortem Appearances.—In the few instances in which Dr. Prout has been enabled to examine the bodies of persons who have died with this diathesis, the immediate cause of death has been either organic disease of the kidneys, (generally combined with oxalate of lime calculus,) or some malignant disease of other organs. As in diabetes, there has been great tendency to acidity in the system; and the veins of the abdominal system have been unusually congested with dark-coloured blood.

Treatment.—The diet must nearly resemble that prescribed for diabetes. The patient should abstain from all saccharine articles of food, and his diet should consist principally of animal, and of the stronger farinaceous matters.

“As, however, the *reducing* function of the stomach is often considerably impaired in this diathesis, solid and indigestible matters should be sparingly taken, or shunned altogether. Hence the French cookery, by which animal and other matters are reduced to a semifluid or pultaceous mass, often agrees better than the crude and solid chops or steaks of this country. There are many exceptions, however, to this observation; and if the reducing function be not very much impaired, it is proper in all instances to take a certain portion of food of an easily reducible character; the best method of restoring the reducing, as well as all other weakened functions, being to moderately exercise them. When the stomach, as is often the case, cannot reduce oleaginous aliments, butter should be avoided; otherwise there is no objection to use it. As *drinks*, fermented liquors should in general be abstained from as much as possible; in this respect, however, every thing will depend on the previous habits of the patient. Sometimes a little good porter agrees well, and may be taken. When porter is deemed objectionable, weak brandy and water is preferable to most wines; particularly those wines containing unfermented sugar. Sound and dry sherry, or even *hoc* and claret, occasionally agree, and may be cautiously taken in some cases. The quality of the water employed is of the utmost importance. Those whose assimilating organs form oxalic acid, and who at the same time drink water containing lime in solution, are exceedingly liable to get an oxalate of lime calculus. The purest water, therefore, that can be obtained, even distilled water, should in all instances be preferred.” 68.

The fixed alkalis are seldom beneficial, particularly in large doses; in which form they often do absolute mischief. The volatile alkalis, combined with camphor and sedatives, in cases of great irritability, are sometimes useful. The mineral acids, either alone or combined with tonics, as the sulphate of iron or of quinine, are usually grateful to the stomach, and may be taken with advantage. But when the mineral acids begin to occasion a deposition of the lithate of ammonia or the lithic acid, their exhibition must be suspended. Indeed, in all instances, the mineral acids require to be left off after a time; as, when too long persisted in, they not only cease to do good, but in most instances do harm. Where the patient lives in the country, Dr. Prout commonly recommends the use of the muriatic acid, (or nitro-muriatic acid, as the case may be,) to be persisted in till the lithate of ammonia, or the lithic acid, begins to appear in the urine; or for a month; and by adopting such a course of acids three or four times in the year, and by a carefully regulated diet, he has seen the diathesis removed. The hydrocyanic acid, with or without digitalis, is often serviceable in relieving the flatulence and palpitation of the heart. Nearly the same remarks apply to the use of mercury in this diathesis as in diabetes.

OF LACTIC ACID, &c.

The prominent features of these derangements are more boldly marked in tropical climates than in this country, and Dr. Prout merely presents a sketch of them at present. Along with lactic acid, and the nearly related

acetic acid, he considers the subject of the muriatic and other acid principles usually developed at the same time.

Of the development or presence of the Lactic Acid, &c., during the primary assimilating processes.—The lactic and muriatic acids are principally derived from the blood, and from the matters secreted or introduced into the stomach; while the oxalic, butyric, acetic, carbonic, and perhaps occasionally the lactic, acids, are developed from the food during its imperfect assimilation; which imperfect assimilation is often a concomitant circumstance attending the abnormal development of the lactic and muriatic acids. When such abnormal development occurs, though both acids may be in excess, one usually predominates. Dr. Prout thinks the following observations may afford a clue to the reason of the predominance of the one acid or the other. That of the muriatic acid seems in general to denote a phlogistic or inflammatory state of the system; while the predominance of the lactic acid marks rather a state of irritation. This is the general law, though there are many exceptions to it. Dr. P. has commonly found in the dyspepsia of plethoric gouty individuals “the predominating acid the muriatic acid; so also in what are called *bilious attacks*, and gall-stones, as they occur in the same class of individuals, the predominating acid is usually the muriatic. In these and similar instances the stomach may be primarily in fault; but, in general, the stomach is affected by sympathy with some distant part. Thus, in *bilious attacks*, the hepatic system is supposed to be congested, so as to perform its functions imperfectly; or, as happens in some severe cases, the fault lies in one of the great nervous centres. So, in the same class of subjects, gouty or inflammatory action of the kidney, uterus, &c., is apt to be accompanied by a predominance of the muriatic acid. On the other hand, the same derangements and remote sympathies, when they occur in weak and delicate, or in *nervous* subjects, are very often attended by the presence of an excess of lactic acid in the stomach. Moreover, in all dyspeptic subjects, hard and crude indigestible matters, when taken into the stomach, irritate that organ, and cause it to throw out a large quantity of the mixed acids, in which the lactic acid almost always predominates; especially in the weak and delicate. An excess of acid, and particularly of lactic acid, in the stomach, is frequently accompanied by more or less gastrodynia; that is to say, of rheumatic neuralgia, similar to that affecting other nerves of sensation. This happens most frequently in gouty and rheumatic subjects, in whom the exciting cause of the acid development has been some foreign indigestible substance.

With respect to the other acids formed in the stomach, these seem also to occur most generally in dyspeptic individuals in whom the muriatic and lactic acids abound; and in whom, in consequence, the digestive processes are imperfectly performed. These acids appear to be chiefly derived from the food, and therefore are probably various in their nature. Among others, the carbonic acid is frequently developed not only from the food, but apparently from the stomach itself; and, in its gaseous form, occasionally proves a source of flatulent eructation. Another, and by far the most troublesome, source of flatulence, is azote. This, in nervous subjects, is occasionally developed from the stomach in enormous quantities in conjunction with the lactic, and particularly with the oxalic acid, as formerly mentioned.

At other times azote is probably derived from the food; but from whatever source this gaseous principle be derived, it usually gives much annoyance; for while the carbonic acid gas, on account of its stimulating qualities, generally escapes from the stomach, the passive character of the azote, and the peculiar spasmodic constriction which usually accompanies its developement, cause it to be retained; and thus, by distending the stomach, to add greatly to the miseries of the patient."

The muriatic acid, if formed from the muriate of soda in the blood, may be neutralized by the soda set free by the liver. But if there be lactic acid in excess, there is no alkali to neutralise it. The consequence is, that the free acid is either taken up with the chyle into the lacteals; or descends into the intestines; where, in conjunction with other acids there developed or separated, it produces various *secondary* symptoms. These symptoms are either local or remote; and moreover differ remarkably in different individuals, and at different ages. In adults, while the acid ingesta remain in the duodenum, great discomfort and uneasiness of various kinds are experienced. Again, peculiar symptoms, among which are a sense of heat and painful colic, often attend the passage of acid matters down the small intestines. If the acid matters pass unneutralised from the cæcum, they usually give occasion to more or less of pain throughout the region of the colon, and sometimes excite diarrhæa. In young children, these and many other distressing symptoms, produced by acidity in the primæ viæ, are still more strongly marked. Thus acid matters, in passing from the duodenum through the small intestines, often produce violent tormina, occasionally terminating in intus-susception; while the presence and retention of acids in the Cæcum and colon not unfrequently give occasion to convulsions.

These symptoms may be occasioned by the absorption of acids into the system, as well as by their presence in the primæ viæ. The following account of the effects of *Acidity in the Cæcum*, will, we apprehend, be new to our readers:

"Excessive acidity of the cæcum is generally accompanied by a deficient secretion of bile; and sometimes by a complete temporary suppression of the bilious discharge, apparently from spasmodic constriction of the common gall-duct; or, it may be, of the biliary ducts themselves. In this state of things, all individuals feel more or less of uneasiness; but the point we wish to mention is, that certain individuals under these circumstances experience what is called nervous headache. This species of headache is frequently accompanied by nausea; is confined to the forehead; and when severe, produces complete intolerance of light and sounds, and a state of mind bordering on delirium. After a greater or less period the pain ceases; sometimes quite suddenly; and the remarkable circumstances to be mentioned are, that this sudden termination is preceded by a peculiar sensation (sometimes accompanied by an audible clicking noise) in the region of the gall-ducts; that immediately afterwards, a gurgling sensation is felt in the upper bowels, as if a fluid was passing through them; and that in a few seconds, when this fluid, which we suppose to be bile, has reached the cæcum, the headache at once vanishes like a dream. One of the greatest martyrs to this species of headache I have ever seen, invariably experiences the train of symptoms above described; and I have witnessed it in a greater or less degree in many instances; indeed I have experienced it in my own person." 75.

Of the Development of the Lactic Acid, &c. during the Secondary Assimilating Processes.—The effects of the acids developed during the secondary assimilating processes are with difficulty distinguished from those already described.

In dyspeptic persons who suffer from acidity in the primæ viæ, the secondary assimilating processes are deranged. The symptoms have more or less of a periodic character, and show themselves in occasional attacks of bilious congestion, gout, lithic acid gravel, catarrhal affections, ague, rheumatism, &c., according as exposure to cold, malarious influence, &c., co-operates with the original predispositions, and determines their nature.

Those who suffer least from derangements of the primary digestive processes, often experience the greatest inconvenience from the derangements of the secondary class, or from their consequences. They boast that nothing disagrees with them, and eat of every thing that comes in their way. In the prime of life, and in sound constitutions, this state of things goes on for periods varying according to circumstances, and particularly according as individuals are indolent or active. In almost all instances, however, sooner or later, the urine becomes loaded, the liver congested, and more or less of fever and derangement of the stomach and bowels,—in short, what is usually called a *bilious* attack, takes place. A calomel pill and black draught seem to set matters right, and the same habits and the same round of changes recur.

“There are some individuals in whom, though the primary assimilating processes are imperfectly performed, and though they eat and drink immoderately, and of everything that comes in their way, suffer comparatively little inconvenience from their excesses; nay, even seem to be all the better for them, if we believe their own account of the matter. In such individuals the bowels are usually lax, and enormous quantities of fæces are passed, consisting of matters taken as food, and which have never been assimilated at all; while the portion that has been imperfectly assimilated and taken into the system readily passes off by the kidneys, skin, &c., without materially affecting the constitution. Subjects of this description, for the most part, are of a lax scrofulous habit, and require to be well supported, in order that enough of matters may be assimilated by their imperfect organs to carry on the vital processes. If such individuals be well fed, they often attain old age; but they are liable to hypertrophies and morbid growths of various kinds; and generally die of dropsy connected with extensive organic disease. The children of such individuals, if they have any, which is frequently not the case, are usually sickly, and very often die in their infancy; and a third generation of such a race, unless counteracted by favourable intermarriages, rarely exist. Habits of this description are met with in various grades, and states of combination; and individuals in whom such habit is associated with gout, gravel, or in short, with any other inherited predisposition to disease, are commonly remarkable sufferers” 78.

Dr. Prout reverts to the circumstances that, in full livers, of a healthy constitution, usually precede a “*bilious attack*.” When acid and unassimilated matters accumulate, as they do in the dyspeptic, they are thrown off periodically by the bowels, or by other organs. In the strong, the symptoms take the form of simple feverish excitement, with more than usual derangement of the stomach and bowels, and generally sickness and diarrhæa; in the delicate, the weak part, whatever it may be, is involved more particularly under the influence of cold. Thus every one must have observed that when the system is so changed, he is liable, on the slightest exposure, to get cold;

particularly if the lungs are in the least degree predisposed. Others, as above observed, in such a state of the system from a similar exposure, get an attack of rheumatism; others gout or erysipelas; others a nephritic attack. Bilious persons, too, in such a state, on comparatively slight exposure to malarious influence, get an attack of rheumatism or ague. Dr. Prout adds:—

“When a cold is caught, particularly in old and dyspeptic individuals, one of the first symptoms often experienced is an immense discharge of glairy aqueous fluid from the salivary glands, and even from the stomach, (analogous to the *water-brash*), and which is not acid. This discharge of fluid is often accompanied by indigestion and flatulence, and a sort of spasmodic constriction of the cardia, so that the gaseous matters are expelled with difficulty. The watery discharge has often a *cold* feel, and is frequently most copious in the night. The stomach also feels *cold*. These phenomena seem to occur most frequently in gouty and rheumatic subjects, and in some are constantly present, in a greater or less degree; but in all are increased by exposure to a damp and raw atmosphere. Under these circumstances, the stomach is apt to be particularly embarrassed by any indigestible and cold articles of food, which aggravate the affection. This state of the salivary glands, &c., seems to resemble closely that state of the skin which gives occasion to what is termed a *cold sweat*; or that condition of the kidneys produced by exposure to cold, which in certain habits is accompanied by diuresis, &c. Such a state is always attended by a peculiar atonic condition of the nerves of the parts affected; which nervous atony paralyzes or renders the organs insensible, as it were, to every stimulus except that of water, which in consequence passes off in excess. In aged individuals who are constantly subject to this flow of watery fluid in a profuse degree, the discharge seems to operate vicariously to the kidneys, and perhaps to other organs; and I have several times seen coma supervene on its sudden cessation.” 79.

Dr. Prout would infer, from the facts already stated, that the severe derangements of the secondary assimilating processes going on all over the system, are nearly allied to certain forms of *fever*; while the local and specific derangements are identical with certain specific *inflammations*.

He continues:—

“We may perhaps be allowed to assume, without opposition, that *some* diseases to which we apply the terms *fever* and *inflammation*, are, *practically* speaking, at least, what we have above inferred them to be, viz. only severer derangements of the secondary assimilating processes, modified by the peculiar nature of the organs or textures in which such derangements exist—inferences that will enable us to explain the principles on which derangements of the primary assimilating processes predispose to the peculiar derangements of the secondary processes now under consideration; and which we consider to be nearly connected, if not identical, with those forms of fever and inflammation usually denominated *intermittent fevers*, *rheumatism*, and *neuralgia*.” 80.

The exciting cause of these diseases is generally admitted to be malaria. Yet every one who has observed these diseases attentively, will probably admit, that the derangements of the assimilating organs constitute one of the first perceptible links in the series of symptoms; and, moreover, that these derangements of the assimilating organs are usually accompanied by the presence of great acidity in all parts of the system. Thus, in ague and rheumatism, during the sweating stages of the paroxysms, immense quantities of acid (chiefly of lactic acid) are thrown off by the skin; and sometimes by the kidneys. In these cases the saliva is commonly acid; and, in

the severe and malignant diseases of this type, occurring in tropical climates, not only the saliva, but the whole assimilating organs, and even the blood itself circulating in these organs, have been observed to be in an acid condition.

"Now, the presence of so much lactic acid cannot be accounted for, except on the supposition that a certain portion of what ought to constitute, or actually has constituted, the albuminous, or, rather, gelatinous parts of the system, are decomposed or destroyed: and as gelatinous and albuminous matters or textures cannot be converted into lactic acid alone; that consequently, other unnatural and probably poisonous principles are developed in conjunction with the lactic acid; to which in part, as well as to the lactic acid, many of the secondary consequences of mal-assimilation are to be referred. In other words, the alimentary matters which ought to be converted into albumen, by the primary assimilating organs; and the albuminous matters of the blood, which, in the secondary assimilating processes, ought to be converted into the living gelatinous and albuminous tissues, are, by the deficient or disordered operations of the vital processes, converted, in a greater or less degree, into lactic acid, and other unnatural combinations." 82.

Dr. Prout next asks—what constitutes the difference between ague, rheumatism, and neuralgia, when the cause and general conditions of the system in these affections are assumed to be the same? And the only answer he can give is—difference in the degree in which the same organs are affected; or differences in the seat of disease or organs affected; or, what is most likely, a combination of both these kinds of differences. Difference in *degree* he thinks hardly competent to the effect. He is "driven to the conclusion, that these different forms of disease arise from derangements in the secondary assimilating processes proper to different tissues or structures. Thus we may suppose (and the supposition seems to be rendered probable by the phenomena) that, in intermittent fevers, the primary assimilating organs, the stomach, the liver, and the spleen, are principally in fault; that the secondary assimilating processes, by which the structure or tissue of these organs is produced and maintained, are impaired; and that to the consequent imperfect development of these organs we may not only refer the formation of the lactic acid, and other unnatural matters, generated during the digestive processes; but also those organic lesions and morbid hypertrophies, which are so apt to take place in the spleen, &c. during severe and long-protracted fevers of this type. In rheumatism, the same derangements, to a less extent, appear to exist in the primary assimilating organs; but, in this case, the secondary assimilating processes, by which the gelatinous portion of the muscular system and its appendages are produced and maintained, may be supposed to be more especially implicated; and the loss of power, and the great degree of pain usually present in rheumatism, may be referred to the disorder of the numerous nerves of motion and of sense, which, as well as the fibrinous portion of the muscles, are likewise necessarily affected by the derangements. Moreover, on these suppositions, we may explain the formation of the large quantities of lactic acid usually present in rheumatic affections, as well as the swelling, &c.; for as all the organs are more or less involved, and their functions paralysed, not only imperfect assimilation takes place in the part affected; but the apparatus destined to remove matters which are unfitted, or no longer useful, from the scene of operation, likewise cease to act; and hence such

unfitted and useless matters accumulate, and cause swelling in the part affected. In simple neuralgic affections, nearly the same explanation may be given. Derangements of the primary assimilating processes, analogous to, or identical with, those existing in ague and rheumatism, are always present in a greater or less degree in these affections; while the derangements going on in those secondary assimilating processes, by which the nervous substance and its immediate appendages are produced and maintained, may be supposed to be the immediate cause of the pain and other distressing symptoms of the disease."

Only rheumatic neuralgia is here alluded to.

Treatment.—There are two classes of remedies—the empirical, consisting of quinine and tonics in general—and those counter-mechanical or chemical expedients, which are calculated to neutralise the effects of mal-assimilation.

In the treatment of the development of acidity during the primary assimilating processes, the first point to be determined, as far as we are able, is the nature of the *cause*. Then the empirical treatment may be applied. Thus, if the cause lies principally in the stomach itself, and the symptoms denote an inflammatory tendency, the due administration of local blood-letting, &c., will be found beneficial; if mere irritation be indicated, sedatives, as the hydrocyanic acid, various tonics, &c. will be found useful. If the cause be chiefly remote, as in the hepatic system, the employment of means calculated to remove inflammatory or passive congestion, as mercury and other deobstruents, will be indicated. If the cause be organic disease; and if such organic disease lie deep in the system, as in one of the great nervous centres, very little beyond palliatives can be advantageously employed. Frequently the cause is not isolated, and merely one of the three. They are complicated, and the case proportionably hard to manage.

The two great objects to be kept in view in the administration of the second class of remedies is either the mechanical object of getting rid of the unnatural material whose effects we wish to obviate; or the chemical object of neutralizing the acid, and, other unnatural products of the primary assimilating processes. Now, as both these objects have reference to certain periods, and depend upon the *time when* the assimilating organs are called upon to perform their duty; it is obvious, that to obtain the utmost benefit of this class of remedies, their administration must in a great degree be regulated by such periods. Thus the acid residua of a meal should be neutralized when the digestive processes are completed; that is to say, from three to six hours after the meal has been taken; and for this purpose, even in the worst cases, from ten to twenty or thirty grains of the carbonite of potash will be quite sufficient. Four or five grains of nitre are a good addition to the carbonate of potash. This remedy must be steadily persisted in, till the affection has been entirely subdued by the joint effect of appropriate diet and medicines. For alkaline remedies *do not prevent acidity, but merely neutralize that formed.*

When acidity prevails in the lower portion of the intestinal canal, and particularly in the cæcum, the treatment must be modified to meet the circumstances. The soluble antacids in this case have comparatively little effect, from their being neutralized and absorbed before they reach the seat

of the affection; hence the insoluble antacids, and particularly magnesia, will in general be found more useful in such cases. The shortest mode, however, of getting rid of the immediate inconvenience of acidity in the lower bowels, is usually to inject a pint or two of warm water, (or of soap and water,) and thus of removing the offending cause. Mild purgatives too are serviceable.

GENERAL OBSERVATIONS ON THE PATHOLOGY OF ALBUMINOUS ASSIMILATION AND SECRETION.

The derangements of albuminous assimilation are best identified by the changes they induce in the urinary secretion. These changes form the basis of Dr. Prout's classification, which is as follows;—

a. Derangements of the assimilating processes, accompanied by excess or deficiency of urea in the urine.

b. Derangements of the assimilating processes, accompanied by the presence of albuminous matters in the urine.

c. Derangements of the assimilating processes, accompanied by the presence of lithic acid and its compounds in the urine; and,

d. Derangements of the assimilating processes, accompanied by the presence of cystic oxide in the urine.

Of an Excess and Deficiency of Urea in the Urine.

Dr. Prout thinks these affections not sufficiently attended to.

Of affections connected with Excess of Urea in the Urine.—The proportion of urea in healthy urine is such, that on the addition of nitric acid, no crystallisation takes place till the urine is concentrated by evaporation. In a variety of cases, however, the quantity of this principle is so increased, that crystallisation takes place on the addition of nitric acid, without any previous concentration of the urine; and in many such cases, on analysis, we find that this excess of the urea is not only absolute but relative; that is to say, that the quantity of urea in the urine is not only absolutely greater than natural, but relatively far greater to the other ingredients, than it is, or ought to be, in the healthy secretion. Now this absolute and relative excess of urea in the urine gives occasion to two forms or rather modifications of disease, which, as in diabetes, are chiefly distinguished by differences in the quantity of urine passed, viz. *Excess of urea without diuresis*, and *Excess of urea with diuresis*. These two forms of disease, precisely as in diabetes, without or with diuresis, sometimes gradually pass into each other in the same individual; and in fact they seem to differ from each other little more than in degree. In the first form of the disease, the quantity of urine passed seldom much exceeds the healthy standard, and in this case the quantity of urea is both absolutely and relatively greater than in health. In the second form of the disease, the quantity of urine is sometimes excessive; and in this instance the quantity of urea, in a given specimen of urine, may be less than in health; though the quantity of urea relatively to the other ingredients may be greater than natural; and the absolute quantity of urea passed in a given time, may thus, as in the other modification of the disease, exceed the natural standard.

In the first form of the disease, the average specific gravity of the urine seems to be a little above 1.020; and occasionally to vary from 1.015 to 1.030, or even higher. Most generally the secretion is transparent and pale coloured; but occasionally assumes somewhat the appearance of porter more or less diluted with water; and this variety in colour not unfrequently takes place in the urine of the same person. When first voided, the urine reddens litmus paper, and consequently has the usual acid reaction of healthy urine. Its only remarkable property is that of containing so much urea as to speedily form a crystallized compound on the addition of nitric acid. It is prone to decomposition, and soon becomes alkaline.

The patient has usually a frequent desire to make water, and the quantity voided in the twenty-four hours appears to be somewhat above the natural standard, and is influenced by slight causes. There is sometimes a sense of weight or dull pain in the back, accompanied by a disinclination to bodily exertion. The patient also complains of more or less uneasiness in the assimilating organs. The functions of the skin too appear to be little deranged; hence perspiration, from the fatigue it is apt to produce, often takes place readily under exercise.

In the second modification of the disease, in which the quantity of urine passed is excessive; besides most of the symptoms above enumerated in an aggravated form, there exists, in addition, more or less of thirst and morbid craving after food. The patient likewise complains of general coldness and great bodily weakness. In some instances also there is considerable emaciation; though not to the same remarkable extent as in diabetes.

The causes are allied to those which predispose to diabetes. Hereditary disposition is probably a common one. Abuse of the sexual powers in early life is another. Indiscretions in diet, anxiety, &c. are others.

Most of the subjects Dr. P. has seen have been middle-aged men, of thin and spare habit, with a sort of hollow-eyed anxiety of expression in their countenance; unusually nervous and susceptible, but by no means always hypochondriacs; and free also from gout, and, as far as could be ascertained, from structural disease of the urinary or any other organs.

Dr. Prout thinks the complaint rare—twenty, perhaps, of diabetes may be seen for one of it. But patients may pass it by until it has terminated in something worse.

The proximate cause of the disease may be found, in Dr. Prout's opinion, in derangements of the secondary assimilating processes, rather than of the primary; that is to say, that the chief source of the urea in the system is that peculiar modification of the albuminous principle distinguished as gelatine; and which, as is well known, is not found in the blood, nor in any previous stage of the assimilating processes; but is developed only during the secondary assimilating processes.

Treatment.—In the two first forms of the disease, the diet should be light and nutritious, but not stimulating; and in general should consist principally of animal and farinaceous matters. If the patient has been accustomed to the use of fermented liquors, a small quantity of the more generous wines, or sound porter, may be allowed; but all diluent and diuretic fluids should be abstained from as much as possible; and thirst should not be indulged.

Moderate exercise on foot and horseback, and abstinence from anxiety are to be enjoined.

No rough treatment of any sort should be attempted. Purgatives and alteratives may be required, but should be employed with caution. In both forms of the disease, and particularly in the second, sedatives are usually required, and of these opium is the chief. With the sedatives may be conjoined such tonics as seem to be suited to the individual habit; and as the complaint recedes, and the health becomes re-established, the sedatives may gradually be withdrawn.

Of Affections generally connected with a Deficiency of Urea in the Urine.

That the extrication of urea by the kidneys is indispensable is not only probable in itself, but accordant with experience, for Dr. P. has never found a specimen of urine, which, when recently passed, did not, on examination, prove to contain more or less of urea, or of its equivalent carbonate of ammonia. Yet there are several forms of disease, in which the proportion of urea is not only absolutely but relatively less than it is in healthy urine. A prominent symptom of these various affections is usually diuresis. The complaint varies somewhat in adults and children.

In adults, it may be considered under the heads of *Diuresis Intermittens* and *Diuresis Continua*. "Perhaps," says our author, "the nearest approach to an entire absence of urea in the urinary secretion, occurs in hysteria. Hysterical diuresis, however, is distinguished by being *occasional*: while, in the intervals, urine is often passed containing a greater proportion of urea than natural. Hysterical urine has often a specific gravity scarcely exceeding that of spring water; and as passed, is often limpid and colourless, and nearly free from sensible properties of every kind. When much concentrated, however, by evaporation, hysterical urine always, according to my observations, displays sensible colour and odour; and if examined in this condition, not only yields traces of saline matters, but of urea. Hysterical urine has sometimes a disagreeable odour when passed; and in almost all instances soon acquires a purid smell, like that of cabbage water; becomes more or less opaque; and deposits crystals of the triple phosphate of magnesia and ammonia; especially in warm weather. Hysterical urine is not exclusively passed by females; but is occasionally voided by individuals of the other sex. In general the affection requires no specific treatment, but yields to appropriate remedies in common with the other symptoms of hysteria. Many nervous individuals, also, who cannot be said to be hysterical; or to be subject to any urinary disease, often, as is well known, pass large quantities of limpid urine on exposure to cold, and to various other exciting influences. Such urine generally differs from hysterical urine in being only *very dilute* healthy urine; while in hysterical urine the relative proportions of the ingredients are always deranged." The two, however, run into one another.

The diseases described by authors under the name of *Diabetes Insipidus*, are probably various in their nature. Generally they seem referable to the class under consideration. The urine voided in a given time is *constantly* much above the healthy standard; the patient usually drinking in proportion. It is almost as colourless as water; at other times it is of a very light straw colour; and its specific gravity in these instances is found to vary from the

specific gravity of spring water, viz. 1·001 or 1·002, to 1·008 or 1·010. The more dilute specimens of urine are commonly quite neutral; but the heavier specimens have sometimes a faint acid reaction. The proportion of urea, as compared with that of the other ingredients, is usually less than natural; hence such urine, on being kept, often acquires a putrid or sour, rather than an ammoniacal smell. But so much urine is made, and this is so influenced by the fluids taken, that it varies greatly.

The constitutional symptoms vary too. But there is always great thirst; a dry state of the skin; and usually a constipated state of the bowels. In most cases, there is an uneasy sensation referable to the stomach, accompanied by a morbid craving for food; at other times this sensation merges into nausea, and there is a perfect indifference to solid matters; which are almost immediately ejected by vomiting. There are also more or less of emaciation; depression of spirits; and great muscular debility, with all their consequences.

Causes.—On this head Dr. Prout has little to say. However this form of diuresis may depend upon the nervous temperament, it certainly, in its turn, aggravates it. It seems to occur equally in both sexes, and is chiefly limited to the middle period of life. Sometimes, as already stated, it appears to be the natural consequence of the form of diuresis connected with an excess of urea. At other times it cannot be referred to any distinct cause. Dr. Prout believes that it is often connected with, or leads to, incipient disease of the kidneys; and if this opinion be correct, it may occasionally pass into the forms of disease marked by albuminous urine.

Diuresis, with deficiency of urea, in young children, is usually accompanied by symptoms very similar to those before-mentioned as occurring in diuresis with an excess of urea; but the symptoms are commonly much severer. The quality of urine is worse, being, often, more or less serous, and when the disease proves fatal, as it frequently does, the kidneys, as well as other organs, are found to be in a state of disease.

The diuresis of old people, and particularly of old men, is often accompanied by a deficiency of urea; but it is generally associated with some apparent organic disease, either of the kidneys or neck of the bladder, or both; to which, as causes, the diuresis appeared to have been chiefly referable. The urine in these cases is often alkalescent or slightly serous.

The complaint is often extremely obstinate, and when it appears to give way, is disposed to return from the slightest causes. It often, too, proves fatal from dropsical effusion or coma.

Treatment.—One of the first great principles to be attended to, is, as much as possible, to restrain the patient from drinking; for if he be allowed to drink *ad libitum*, it is in vain to hope for benefit from any plan of treatment. Another point to be kept in view, is to promote cutaneous action. For this purpose the vapour bath and friction, assisted by the internal use of Dover's powder, antimony, &c.; or, if the patient's circumstances admit, removal to a warm climate; will be found highly serviceable. Tonics of every kind usually disappoint our hopes; and the more active tonics especially, often increase the thirst. To these may be added *sound* porter, and

diet consisting chiefly of animal and farinaceous matters. Active purgatives are mischievous.

The treatment of the disease in infants and young children is similar in principle to the treatment of diuresis accompanied by an excess of urea; but to ensure a chance of success, the remedies must be much more carefully and sedulously applied; and in spite of all that can be done, the complaint usually goes on to a fatal termination.

Of Albuminous Urine.

Dr. Prout remarks on the controversy which has existed and exists in reference to the organic lesions occasioning albuminous urine. But he takes no part in it. He adheres to his old opinions. He says—

“I considered the albuminous matters occurring in the urine as of two distinct kinds, viz. chylous and serous: in the first case, the albuminous matters of the urine were supposed to resemble the albuminous matters in the chyle; in the second case, the albuminous matters in the urine were supposed to be identical with the albuminous matters of the blood. I also remarked that distinctly defined instances of both these varieties of albuminous urine are rather uncommon; and that by far the most frequent form which the disease assumes, seems to be of a mixed character; that is to say, the albuminous matters in the urine partake more or less of both the chylous and serous characters.” 112.

He therefore describes albuminous urine under the two heads of *chylo-serous urine* and *serous urine*, admitting that they run into each other, and that the latter is the more frequent.

Of Chylo-serous Urine.—We pass over, as our readers must be acquainted with it, the description of this sort of urine, and merely notice the conclusions drawn by Dr. Prout from thirteen cases of which he has seen more or less.

First. The disease occurs in both sexes before and after puberty. Of the thirteen cases, five were males and eight females. In three cases, two males and one female, the disease occurred before puberty; of these three cases, one was a male infant of about eighteen months old.

Secondly. Of the thirteen cases, seven occurred either in natives of hot climates, (East and West Indies,) or in individuals who had resided for many years in hot climates.

Thirdly. The general health suffers much less than might be expected. Two of the females, for instance, while labouring under the affection in a marked degree, became pregnant and brought forth healthy children. Hence the disease does not interfere with the generative functions; nor with the secretion or qualities of the milk.

Fourthly. Of the thirteen cases, three are known to be dead. Of the remainder, five, Dr. P. believes, are alive and well. Of the others he can give no account. In two of the fatal cases, the patients were cut off by acute attacks of inflammation of the abdominal viscera. The third patient, whose case will be subsequently given as an illustration, died apparently in a state of exhaustion and great emaciation, after labouring under the affection for nearly twenty years.

Fifthly. The disease is not necessarily connected with organic lesion of the kidney; at least organic lesion appreciable by the senses.

Sixthly. The causes of this affection, whether predisposing, exciting, or proximate, are imperfectly understood.

Of Serous Urine.—We shall merely, in the present article, introduce Dr. Prout's views on this important affection to our readers. In our next we shall complete our notice of the volume.

Dr. Prout observes that, strictly speaking, perhaps there are many varieties of disease belonging to this head, differing not only in degree, but even in kind from each other; but, in the present state of our acquaintance with these subjects, such varieties can with difficulty be distinguished. He considers, however, only two principal kinds or species, one of an *acute*, the other a *chronic* character. The first of these species includes at least two varieties, differing from each other principally in degree; the second eight; and the whole ten varieties so gradually pass into each other, that it is not easy to define their exact limits. If there be, however, a distinguishing feature in the character of the urine between the acute and chronic species, it consists in the fact—that in the two acute varieties, the urine on cooling frequently deposits the lithate of ammonia; while in four at least of the chronic varieties, this phenomenon never occurs under any circumstances.

Dr. Prout first defines the sense in which he understands and uses certain terms.

"The different meanings attached to the term *inflammation*, or what is the same thing, to words terminating in *itis*, by authors, are a frequent source of misconception; and consequently of mistakes, in medical reasonings. Many of the continental authors, for instance, and particularly the French authors, appear to consider inflammation as almost the only cause of disorganization; at least, it is difficult to arrive at any other conclusion, provided they employ the suffix *itis*, in its usual acceptation. Thus in the recent excellent work of M. Rayer, the diseases to be here and elsewhere considered, are arranged under the heads of *Nephritis*, *Pyelitis*, *Peri-nephritis*, &c. according as the secreting portion of the kidney, or the membranes lining its internal cavities, or covering its external surface, &c. are found, after death, to be affected with signs of recent inflammation. This view of the subject has always appeared to me to be imperfect. That inflammation is the *immediate* cause of death in most of these diseases is not denied; but admitting this, I ask, does the term inflammation, even when qualified by the epithet chronic or otherwise, rightly designate that comparatively quiescent state of the kidneys which immediately preceded the fatal inflammatory attack? The general answer to this question must, I think, be in the negative. That there is such a condition as chronic inflammation; and that such a state of chronic inflammation does, in some instances, exist in the kidneys previously to the more acute and fatal attack, is not doubted; but my decided opinion is, that in the greater number of instances, the previous state of the kidneys cannot by any justifiable latitudinarianism be designated by the term *chronic inflammation*." 122.

All organic affections, he continues, may be supposed to arise from *degeneration* and *inflammation*. By degeneration he means that slow and gradual change occurring in all living structures, which appears to be connected with, or to result from, the gradual decay of the vital processes in general, and particularly of the processes of assimilation. Degeneration, therefore, is the natural and universal consequence of age; but it may

arise in early life from a variety of causes, among which the most frequent are: first, an *inherited* and *innate weakness* of the vital powers, either as they exist in the system generally, or as they exist in particular organs; as for instance in the kidneys; secondly, an *acquired* weakness of the vital powers in general, or as regards the vital powers of particular organs, produced by a variety of slowly acting causes; such as continued errors in eating and drinking; long exposure to the influence of unhealthy situations; or of occupations unfavourable to the general health, &c.; and, thirdly, an *acquired* weakness of the vital powers, either general or local, produced by the operation of acute causes; as acute inflammation, severe accidents, &c.

The term *inflammation* he employs in its admitted sense, and considers three grades or kinds of it; viz. *acute* inflammation, or inflammation in its most active form; such as it more especially exists in healthy subjects and in healthy organs: *chronic* inflammation, or that obscure state of activity, which, for want of a better term, we designate inflammation; and which is almost exclusively limited to degenerated structures: and *congestive* or *adynamic* inflammation, such as occasionally follows acute inflammation in healthy subjects; but much more generally takes place in unhealthy subjects; or succeeds to the chronic inflammation of degenerated structures.

He deduces the following inferences from these views:—

First. A degenerated condition of the organ, from whatever cause produced, may exist for a greater or less period in a state of comparative quiescence; during which state of quiescence, the system in general may accommodate itself more or less perfectly to the degenerated state of such organ.

Secondly. Local degenerations are liable to become aggravated from a variety of causes, and particularly from inflammation; and when such causes have ceased to operate, as for instance when the inflammation has subsided; the general system, as before, gradually accommodates itself, during the succeeding period of quiescence, to the new order of things induced by the inflammatory attack.

Thirdly. Such alterations of comparative quiescence and of activity repeatedly take place; the degeneration on the whole being increased during each successive paroxysm; till finally the patient is cut off during an inflammatory attack, which overwhelms his exhausted powers.

Fourthly. The patient in such cases cannot be said to die of inflammation alone; but of the conjoint effects of degeneration and of inflammation. Moreover, the inflammation would probably never have taken place, had degeneration not existed as a predisposing cause; or having taken place in a perfectly healthy structure, the inflammation would not have proved fatal.

Fifthly. The appearances presented after death under these circumstances are often very unsatisfactory, and quite useless in a pathological point of view: inasmuch as presenting the conjoint effects of degeneration and of inflammation, they do not enable us to distinguish what is due to degeneration, and what to inflammation; a distinction in all instances of the utmost practical importance.

Reverting to the kidney, Dr. Prout considers the *serous* character of the urine with reference to the kidney in a state of *health* (sp. *a*); and with reference to the kidney in a state of *degeneration* (sp. *b*); and as further *varied* by the accidental circumstances of *quiescence*, and of *inflammation*. So that the arrangement stands thus:—

Species a. Serous Urine; the Kidney in a State of Health. { var. 1 Quiescent.
var. 2 Inflamed.

Species b. Serous Urine; the Kidney in a State of Degeneration. { var. 1 Quiescent.
var. 2 Inflamed.

In treating of degenerated kindeys, Dr. Prout employs the terms *anæmotrophy* and *hæmotrophy* to imply a deficiency and an excess of sanguineous nourishment. "*Atrophy* and *hypertrophy*," says he, "as commonly understood, include the idea of diminished and increased magnitude; and do not, therefore, exactly express the meaning intended to be conveyed. On the other hand, *anæmia* and *hyperæmia* have reference only to the quantity of blood present, without regard to its nutritive properties. For these reasons, as well as for the sake of distinction, I have adopted the terms in the text to designate those peculiar conditions of degenerated organs, chiefly characterized by the absence or presence of (red) blood; and which conditions apparently depend on the individual contraction or expansion, or on the numerical diminution or increase (or both) of the blood-vessels supplying such degenerated parts. That some such distinction is requisite for describing the condition of degenerated structures, is evident from the fact, that an organ may be anæmotrophied or hæmotrophied, without being diminished or increased in bulk; or without the presence of general anæmia or hyperæmia; and *vice versa*."

And in reference to this anæmotrophic and hæmotrophic condition of the kidney, he thus classifies the affections of it in a state of *degeneration*:

Species b. Kidney Degenerated.	SECT. I. In a State of ANÆMOTROPHY.	Subspecies a. The kidney in a state of organic change; but without any visible derangement of its ultimate structure.	{ Var. 1. Quiescent. Var. 2. Inflamed.
		Subspecies β. The kidney in a state of disorganization, i. e. having its ultimate structure more or less visibly destroyed.	{ Var. 3. Quiescent. Var. 4. Inflamed.
	SECT. II. In a State of HÆMOTROPHY.	Subspecies γ. The kidney in a state of organic change; but without any visible derangement of its ultimate structure.	{ Var. 5. Quiescent. Var. 6. Inflamed.
		Subspecies δ. The kidney in a state of disorganization, i. e. having its ultimate structure more or less visibly destroyed.	{ Var. 7. Quiescent. Var. 8. Inflamed.

Here we pause for the present. As we before observed, we shall return to the work in our next Number. And a very remarkable work it is, destined, if we mistake not, to effect material changes in the science of medicine, and to exercise a not inconsiderable influence upon its practice. Whatever we may think of the extent to which Dr. Prout has carried his views, none can refuse to him the merit of a profound thinker and a most sagacious observer. His views are perhaps the boldest and most original of our time,

and their philosophic character is a record at once of the knowledge of the day and the genius of their author. It would be wrong to conceal our humble opinion that something of speculation is mixed up in them, and that they occasionally border on the fanciful. The chemist, likewise, is somewhat too apparent, and the humoralism, though of the most exalted and scientific character, may be deemed a little too prominent. But so masculine a mind as Dr. Prout's, possessed of a mode of analysis so powerful, may be well excused for applying it too widely, and for attempting to reduce too numerous phenomena within its sphere. This is a slight error which will bring its own correction.

Our readers, we are sure, will not be displeased at our lengthened account of a volume which teems with such valuable facts and equally valuable reasons. In our next, the account will be completed.

PERISCOPE;

OR,

CIRCUMSPECTIVE REVIEW.

"Ore trahit quodcumque potest, atque addit acervo."

DESCRIPTIVE CATALOGUE OF THE PREPARATIONS IN THE MUSEUM OF THE ROYAL COLLEGE OF SURGEONS IN IRELAND. By *John Houston*, M.D.M.R.I.A. Curator of the Museum. Vol. II. Pathology, pp. 604. Dublin, Hodges and Smith: London, Renshaw, 1840.

Mr. Houston is so favourably known to the profession, on this side of the water as well as on his own, that we need not say any thing complimentary about him. Yet the work before us deserves a compliment, for it is drawn up with care, judgment, and ability. It possesses, too, a wider sphere of utility than might be imagined from its name, for not only is it a Descriptive Catalogue, but its histories of cases, and accounts of pathological facts are, many of them, highly instructive.

The preparations in the museum and the descriptions of them here are arranged, not inconveniently, in six classes.

The first class, distinguished by the letter A, contains all the organs concerned in the assimilation of food.

The second, by B, contains the organs of circulation.

The third, by C, the organs of respiration.

The fourth, by D, the organs of sense.

The fifth, by E, the organs of locomotion and prehension.

The sixth, by F, the organs of generation and secretion of urine.

We cannot analyse, it would be impertinent to review, and we will not pretend to cull all the valuable facts out of this volume. It is one for the closet, adapted for reference, valuable for study. The student, young or old, who will take it into the museum it belongs to, and meditate upon the preparations on *those* shelves, their records in *these* pages, will have a large addition to his scientific knowledge, and thank Mr. Houston for his aid. Nay, the fire-side student who will take the book upon his knee, and carefully con it without the accompaniments of shelf or bottle, will rise from its perusal stored with much information that he could not be previously possessed of.

We will quote some of the facts which crowd the pages of the Catalogue, and which may seem curious, entertaining or instructive. But for every fact we do quote, our readers must understand that a hundred just as good remain behind. It would turn this Journal to a catalogue to do justice to all.

Face of a man eaten by a Pig.

A. a. 5.—Picture of a man whose face was eaten away, by a pig, while lying in a state of drunkenness. The entire nose, both cheeks, and parts of both ears, in fact, all the most eatable parts of his face were chewed off by the animal; nevertheless, the wounds all healed, and he recovered: but of course with all the disabilities of enunciation, chewing, and swallowing, attendant on such extensive destruction of soft parts. He, notwithstanding, under generous regimen contrived, while in the Hospital, to keep up a good condition of body. His prin-

cipal regret lay in the unavoidable disuse of his tobacco-pipe. The picture exhibits him after the wounds had all healed, without outward nose or ears, but with two beautifully white and perfect rows of teeth.

Cancer of the Upper Lip.

It is a curious circumstance that M. Cruveilhier denies positively the existence of cancer in the *upper* lip. He says, in his *Descriptive Anatomy*,—"Une particularité, tout inexplicable, c'est que les boutons cancéreux des lèvres qui sont si fréquens, ne se remarquent jamais à la lèvre supérieure, mais toujours à la lèvre inférieure." However true it may be that cancer is very much more frequent in the lower lip than in the upper, it certainly is *not* true that it is exclusively limited to the former. The following statements are conclusive on this point.

A. a. 9.—Incipient cancer of the upper lip, removed from a woman, seventy-one years of age. The disease appeared, at the time of the operation, to be local, but the patient died about a year and a half after, from its revival in the glands of the neck, without any recurrence of it in the lip.

A. a. 10.—Cancer engaging the right side of the *upper* lip, leaving the angle free. The patient was a tall, thin, unmarried woman, about sixty years of age. There is no report of the result of the operation.

A. a. 12.—Ulcerated cancer of the angle of the mouth, engaging equally both upper and lower lip. A flattened fungus may be seen on the inner surface, at the angle.

Extirpation of Healthy Tongues.

A. a. 35.—Two healthy tongues extirpated by evil-disposed persons, during the lifetime of the sufferers, with a view of preventing their giving evidence at a criminal trial.

A gang of ruffians waylaid the unfortunate men, threw them down, kneeled on their chest, and squeezed their throats, so as to make their tongues protrude from their mouths. This being effected, the tongues were laid hold of, pulled forcibly forwards, and cut out from near the root, by a short, sharp, curved weapon, like a gardener's knife. The victims of this atrocious deed recovered without ligatures to stop bleeding, or other special surgical treatment: and regained, afterwards, sufficient power of speech to convict and bring to punishment their assailants.

Perforation of the Œsophagus by a Bougie.

A. a. 44.—Stricture of the Œsophagus behind the pericardium. The tube is narrowed to the extent of several inches, its walls at this place are thickened, and its mucous membrane corrugated longitudinally: in some parts there is a depressed, ulcerated surface; in others fungous projections. About midway between the cricoid cartilage and strictured part, there is a distinct oval ulcer, with spongy surface and fungous edges.

The history of this preparation is instructive. For a long period, the occasional introduction of the bougie gave relief; but finally, the operation became injurious; as on the last occasion, the bougie perforated the central ulcer observable in the preparation, and passed into the posterior mediastinum. From that moment the patient sank, and died in a few hours.

There might be many tallies found to this preparation and this history. Patients have been not unfrequently dispatched to "the undiscovered country" by Œsophagus bougies. Surgeons should be chary of their use.

Perforation of the Subclavian Artery by a Bone in the Œsophagus.

A. a. 47.—The Œsophagus of an old beggar-woman, stuffed with fragments of beef and bone, which caused death by suffocation. The sharp point of the bone having pierced the tunics of the Œsophagus, wounded the right subclavian

artery, which taking origin from the left part of the arch of the aorta, and crossing thence to the right, between the œsophagus and spine, happened to lie in the way. The projection of this artery may have even been, in part, a cause of the detention of the foreign body in the tube.

Salivary Calculus Extracted.

A. a. 85.—Salivary calculus, about one inch long and the thickness of a quill. It is slightly curved, and uniformly large from end to end. It was extracted from the submaxillary duct of a female, twenty-four years old. One end appeared at the mouth of the duct, so as to admit of being seized by a forceps. It came out easily. The patient was only inconvenienced afterwards by stiffness, and pain in moving the tongue. It is several years since the removal of the calculus, and no further complaint arising out of it has been made.

Singular Atrophy of the Stomach.

A. b. 93.—A portion of stomach in a singular state of atrophy. The organ, though much enlarged, contained only air: it had rejected all sorts of food. It was so thin in some parts, as to be almost transparent. The part preserved may give some idea of the state of the entire organ. The muscular coat appears to be that most reduced; the villi of the mucous surface, though very indistinct, are discernible; the serous coat is the most perfect. The patient was a lady of about sixty-five, of full, bloated person, though extremely temperate in habits. For a time she laboured under all the rational symptoms of thoracic aneurysm, or incipient hydrothorax, puzzling many a skilful physician. Some months previous to her death, she had continual, and unappeasable hiccough, nausea and vomiting: she could not take food, great difficulty of breathing set in, and she died exhausted. The heart was found attenuated, flabby, and soft; and there were several osseous deposits, in the larger arteries.

Cancer of the Stomach.

A variety of preparations of cancer of the stomach are described. On the whole, they prove the too frequent obscurity of the symptoms attending that melancholy disease. If we might be allowed to generalise from what we have seen, we should say that medullary fungus of the stomach is less frequently attended with decided symptoms than scirrhus of it. The following case, as a case, countenances that idea.

A. b. 120.—Huge fungus in the stomach, springing from the greater curvature. The other parts of the organ are sound: it remains of the natural size; and the pylorus is free from disease. This was the case of a lunatic, of middle age, who enjoyed an excellent appetite; was not particularly emaciated; and never made any complaint, leading to a suspicion of the stomach being diseased.

Dangers of the Bougie.

We are tempted again to allude to these, for the purpose of enjoining caution in the use of the œsophagus bougie—an instrument which, we fear, has been sadly abused. We cite another instance of a false route taken by it.

A. b. 146.—Enormous fungus of the stomach protruding in part, into the œsophageal orifice. Food could not pass the obstruction; and a bougie attempted to be introduced, opened a way into the peritoneum behind the fungus. The natural line of direction of the œsophagus with the stomach is completely altered. The œsophagus above the point of obstruction, is dilated and thinned. A bougie points out the course which the instrument took.

Stomach of an Ironmonger.

With an account of this we shall stop. The case, indeed, has been published, but may be new to some of our readers.

A. D. 188.—Stomach of a lunatic, in which were discovered various metallic substances: such as. the rusty remains of large nails, long pieces of thin iron-like portions of iron hoop, the worn-down blade of a knife, a large iron buckle, with a pewter tongue, as that of a saddle-stirrup, an iron hinge of a box or door, and several pieces of metal, too thin and worn to admit of their original use or form being in any way recognised. Four or five pieces in the same state, were also found in different parts of the intestinal canal. One, in particular, a piece of iron, four or five inches in length, lay in the transverse arch of the colon. On opening the abdomen in the first instance, the hollow viscera all presented an unusual dark tinge; and their fluid contents were of the same colour. There was no peritonitis. The preparation shews the stomach to be of inordinate size, and greatly thickened, both in its mucous and muscular tunics. The mucous glands are likewise hypertrophied; in size they resemble those in the crop of some granivorous birds, more than those of the human stomach. The rugæ, especially in the pyloric third of the stomach, are unusually prominent, being elevated into thick, firm, vascular masses, like fungous growths. There is at one particular spot, an ulcer with hardened edges. The œsophageal and pyloric orifices are both very much dilated.

If we close our notice of this volume here, it is rather because it admits of almost indefinite extension, than because we have exhausted its stock of interest and instruction. The profession may judge from what we have given, the value of what is behind, and we can say sincerely that the work is one fraught with information to those who will peruse it with attention. We repeat what we have before observed, that its utility is eminent as a book of reference.

NUCES PHILOSOPHICÆ; or the Philosophy of Things, as developed from the Study of the Philosophy of Words. By Edward Johnson, Esq. No. 1. January, 1841. Price One Shilling. Simpkin and Co.

This periodical is dedicated to the members of the Provincial Medical Association, and is evidently the production of a clever and well-read man, who has studied philology with great assiduity. The nature of the work, however, is not sufficiently developed in this number to enable us to judge accurately of the performance. The dedication is very ingenious, and, we would say, rather too forensic. Indeed we think that Mr. Johnson would have figured at the bar, where he would have been able to make the "worse appear the better cause." In the present instance he has laboured hard, and with very specious and plausible arguments to prove that the study and practice of the medical art and science require a greater breadth and depth of intellectual power than that of either law or divinity. This may be, and probably is true. But the prudence or propriety of strongly urging comparisons, which are proverbially odious, may be well questioned, as coming from the acknowledged pen of a medical writer. Mr. Johnson has been hard upon the lawyer in particular; and we fear he has not been quite justified in considering that the only faculty of the mind called into operation by the lawyer is—MEMORY.

"And what are the intellectual attainments necessary to qualify the law-student for the exercise of his profession? To have (if it were possible) the *statutes at large* by heart—to store his memory with acts of parliament, and such other writings as define the laws—and to have on the tip of his tongue, ready on all occasions, to hang a thief or save a thief, the previous decisions of previous judges which can be brought to bear on doubtful cases. Here again the faculty of mind called into operation is *still the memory only*. The knowledge of the most profound lawyer consists solely in his recollection of the *opinions and writings* of other men, whether in the shape of acts of parlia-

ment or of adjudged cases—or rather, it is not knowledge at all—it is but fallible *opinion*, and consequently may be, and much of it has already been, *proved to be false*. To the law-student, also, three years are, as I believe, the allotted period of study. Nor am I questioning either the propriety of this term, or the necessity of law-learning. I am only showing that it does not require a high order of intellect to master it, nor any large endowment of philosophical knowledge to become a profound lawyer." xi.

Whoever has listened to the orations of a Curran, a Brougham, a Romilly, or any other eminent barrister, and heard him range through the fields of literature and science for arguments, illustrations, and decorations, would candidly confess that a mere technical memory of the "statutes at large," could go but a short way in supplying the orator with materials for the defence of his own client, or the crimination of that of his antagonist.

That the passage above quoted, should have brought a hornet's nest about Mr. Johnson's ears, might have been readily anticipated—and accordingly his "philosophical nuts" have been cracked with sledge hammers by the legal tribe. We do not think that the policy of the provocation can be at all defended; but as the publication will be inevitably injured, if not strangled by the lawyers, while the divines will assist in the work of destruction, it behoves the medical profession to patronise the work, and carry it safely through the storm. For, although we cannot help considering the *comparison* which the author has drawn in favour of the medical profession, as injudicious; yet, it is clear that it was well-meant, and consequently entitled to our sympathy and support. We therefore solicit the patronage of the medical public in favour of this new periodical.

GAS-BATHS.*

These and the Mud-baths to be presently described, are becoming very fashionable in Germany. From every inch of surface in the peat bog around Franzensbad, carbonic acid gas is constantly issuing forth in such quantities that its extrication is audible and visible, wherever there is water on the ground. To have a reservoir of this gas, it is only necessary to build a house, and prevent the carbonic acid from being dispersed in the air. It is there collected, and baths and douches are constructed for its ready application to the body generally, or to any particular part thereof. The gas-bath, or building at Franzensbad, stands within thirty or forty yards of the Franzensquelle, and from the ground of this house, which is of very moderate extent, there issue 5760 cubic feet of gas every twenty-four hours!! There is little doubt that the extrication of carbonic acid is equally plentiful in any and every part of the bog in which the town is situated. I should think that to go to sleep on the ground, in a calm Summer's night, would be inevitable death. As it is, the good people of Franzensbad, inhabitants and visitors, must be perpetually inhaling an atmosphere well impregnated with this gas. I do not suppose, however, that this is productive of any injurious effects.

The gas is conveyed into the bath through a cock at the bottom, and the patient, being either dressed or undressed, sits down on a little stool, while a wooden lid or cover, with a hole that fits tolerably close to the neck, is placed over the body, the head being in the open air. They have small tubes through which they can apply the gas to the eyes, ears, or any part of the body, in a stream, the velocity of which can be augmented or diminished at pleasure.

* From Dr. Johnson's "Pilgrimages to the Spas in Pursuit of Health."

They can also diminish the intensity of the gas by applying a piece of muslin or taffeta over the pipe, or over the eyes or ears that are subjected to the stream. I did not try the gas baths here, but at Marienbad I used them generally and locally, accompanied by my kind friend Dr. Herzog of that place. Standing in the bath, the cock was turned without my being aware of it, and, in a few seconds, I felt a sense of heat ascending quickly along my legs towards the body. Without thinking of the gas I stooped, and put my head down to the aperture of the tube, by which I inhaled as much of the carbonic acid as caused a sudden faintness. Dr. H. and the bathman quickly extricated me from my perilous situation, and I went on with the bath, while my head was in the open air. I found that the following representation of the sensible, and physiological effects of the bath, as given by Baron Aimé, is sufficiently correct. 1. The gas excites and even irritates the skin, producing a pricking, and soon afterwards a strong itching on the surface, accompanied by heat, and ultimately perspiration. 2. The gas stimulates the nerves of all parts to which it is applied. I had a stream directed on my eyes, which caused a most profuse flow of tears, with strong sense of heat. When it was applied to my ears, a sense of heat, and a considerable noise were the effects produced.* 3. It is asserted by physicians of the Continent that this gas is extremely useful when applied to old, ill-conditioned, and irritable ulcers, as soothing and promotive of healthy discharge, and ultimately of cicatrisation. 4. Although the breathing of this gas is as mortal as that of the Grotto de Cane, yet if diluted with plenty of atmospheric air, it is thought that it might prove serviceable in some states or stages of phthisis, asthma, &c. 5. The action of this gas on the eyes and ears I have already mentioned. Its remedial agency is much extolled in certain disorders or diseases of those organs, attended with atony or morbid irritability of their nerves and structures. 6. These baths are chiefly employed in cases of paralysis attended with stiffness, feebleness, or spasmodic movements. 7. In chronic inveterate affections of a gouty or rheumatic nature—chronic sores—glandular swellings—and various cutaneous complaints, the gas baths are applied, and, as is affirmed, with success. 8. In uterine affections, irregularities, &c., attended with torpor, debility, and irritability.

Upon the whole I am disposed to think that the gas baths are active agents, and that they may be made useful ones, when carefully applied.

MUD-BATHS.†

Among the novelties—transcendentalisms, or, as some would call them, extravaganzas, of Germany, the Mud Baths deserve the “passing tribute” of a short notice. But alas! there is “nothing new under the sun”—or under the earth. To the mud of the Nile and the Ganges, virtues almost miraculous—even the creative power of life—have been attributed, time immemorial. Who does not know that the life of *Marius* was preserved by a mud-bath in the Minturnean marshes?—The instincts of animals, too, are not to be overlooked. We all know the extreme tenacity of life possessed by eels—owing perhaps to their frequent use of mud-baths. Swine are proverbially subject to cutaneous complaints, especially measles; to prevent or cure which, Nature seems to prompt the daily employment of mud-baths, in the Summer season. A remarkable instance of the force of instinct is afforded by the Indian buffalo. That animal

* The Baron Aimé suggests the more frequent application of this gas to certain complaints of both sexes which are regarded with no small anxiety by both parties. *Verbum sat.*

† From Dr. Johnson's *Pilgrimages to the Spas in Pursuit of Health.*

immerses himself daily, during the hot season, in mud, up to the very nose; by which means, we may conclude that he avoids the jungle fever, or cures himself of liver-complaints. The alligator offers another example. When he has swallowed a buffalo or a tiger, he buries himself up to the nose in mud, on the oozy shores of the Ganges, no doubt for the promotion of digestion.

It is unnecessary to multiply the virtues of mud-baths. Those who desire ocular proofs must repair to Franzensbad in Bohemia, where they will see—not mud but bog-baths in perfection; though they are now also got up very well in Marienbad, Carlsbad, Teplitz, and other fashionable spas.

I have alluded to the plentiful supply of bog which the immediate vicinity of Franzensbad offers to the mud-bathers. This earth contains the following materials:—viz. The fibres of plants not decomposed, and whose organization is recognizable—matters soluble in water, such as vegetable substances rich in carbon, and of a yellow colour;—sulphate of lime—sulphate of magnesia—sulphate of iron—alum—bituminous extractive matter—oxide of iron—fine sand,

Thus we see that the mere boggy material of the mud-bath contains many substances that may and do exercise a considerable physiological action on the body; and medicinal agency on the constitution.

The peat bog is carried to the neighbourhood of the baths, and there allowed to dry to some extent. It is then sifted and separated from the woody fibres and coarser materials, when it is mixed with the mineral water of the Soeusenquelle into the consistence of a very soft poultice. In this state it is heated by steam to a temperature varying from 80° to 100° of Fahrenheit, when it is ready for the bather, being worked up by means of wooden instruments and the hands into complete black amalgam. I took the mud-bath here, at Marienbad, and Carlsbad, and do not regret the experiments. I confess that, at first, I felt some repugnance, not fear, in plunging into the black peat poultice; but when up to the chin (temperature 97°) I felt more comfortable than I had ever done, even in the baths of Schlangenbad, Wildbad, or Pfeffers. The material is so dense, that you are some time in sinking to the bottom of the bath—and I could not help fancying myself in Moheem's tomb, suspended between Heaven and Earth, but possessing consciousness, which I fear the prophet did not enjoy. There was one drawback on the mud-bath, or peat-poultice. We cannot roll about, like a porpoise or whale, as in the water-bath, without considerable effort, so dense is the medium in which we lie; but I found that I could use friction to all parts of the body, with great ease, in consequence of the unctuous and lubricating quality of the bath. After twenty minutes' immersion, I felt an excitement of the surface, quite different from that of the common mineral warm baths—even of those of Wisbaden, Kissengen—or Schwalbach—attended, as I fancied, by elevation of spirits.

Whilst I was thus philosophizing, like Diogenes in my tub, the thought came across my mind that I would have a dive in the sable mixture. I knew that the sun and winds had so tanned my complexion, that it would not suffer by immersion; and if my hair should get dyed black, the change would certainly be for the better. I therefore disappeared like an eel in the mud; but, on emerging from the bog, I thought I should have been suffocated before I cleared my face from the tenacious cataplasm. I had now been nearly half an hour in the Schlammbad, and prepared to quit, as the mixture was fast cooling down, and the heat could not be kept up, as in the water-bath. On raising myself slowly and perpendicularly, with at least twenty pounds of mud on my surface, I caught a full length portrait of myself in the glass, and I think the view would have sickened Narcissus of self-contemplation for ever!! I was really shocked at my sudden metamorphosis into the Ethiopian, and began to doubt whether I should ever "change my hue" again. The warm water-bath was close at hand, but I had the presence of mind not to jump into it at once, as I should, in that case, render it a black wash-tub; but by clearing away with both hands, some sixteen or eighteen pounds of peat varnish from my body. I rolled into

the clear fluid, where it required half an hour's rubbing and scrubbing to purify myself from the "Bain de Boue." Both on this, and on subsequent occasions, at Marienbad, Carlsbad, and Teplitz, I experienced a degree of exhilaration, strength, and elasticity from the mud-bath, which I had never done from any other. The iron in these baths, instead of corrugating the skin, as I expected, imparts to it a glossy or satiny feel and softness quite peculiar—and much more in degree than the waters of Schlungenbad.

The bog-earth is well picked, and in some places sifted, so as to remove all the fibrous and woody parts, leaving the fat unctuous substance to be mixed with the mineral water of the place. In general these baths produce a pricking sensation, and sometimes an eruption on the skin, an effect which I did not experience.* They are therefore much used in old and obstinate cutaneous complaints, as well as in glandular swellings, sequences of gout, rheumatism, &c. They are very exciting to the nervous system, and should not be used where there are any local inflammations, or much general excitability of the constitution. They do not lose their heat so rapidly as the water-baths, and consequently they maintain the volatile and penetrating principles longer than the latter. They are much employed in paralysis, chronic ulcers, and cutaneous affections.

Here and at other spas where mud-baths are employed, I met with several veteran warriors whose aching wounds reminded them too often of battle-fields and bloody campaigns. They almost all agreed in attributing more efficacy to these than to the common baths—and I think, from what I have seen, heard, and felt, that there is much truth in these statements. The Schlamm-baths have one advantage over the others, which is more prized on the Continent than in England—the facilities which they afford the bathers, both male and female, of receiving morning visits from their friends while in the mud, and that without any violation of delicacy, propriety, or decorum; for there, persons are more completely veiled than in any dress, even of the most dense and sable furs of Russia. An English lady of rank, at Teplitz, was visited by her physicians and friends while immersed to the chin in peat-bog. They read to her, and conversed with her till the signal was given for exchanging the black varnish for the limpid and purifying wave, when they retired.

The rules for taking the Franzensbad waters and baths do not vary materially from those of other spas. The following concise direction is from the pen of Dr. Clarus.

"A complete course of these waters requires at least four weeks. When it is thought desirable to take of more than one source, the change from one well to another should not be abrupt, but gradual. We may commence with one glass of the Salzquelle, and each day increase by the glass, till, in a week, we come to six or seven glasses, taken at intervals of a quarter of an hour. After this period, the Salzquelle is to be decreased, glass by glass, and replaced by the Cold Sprudel. This change is to go on during the second week. At the end of a fortnight, the Cold Sprudel is to be changed, in the same gradual manner, for the Franzensquelle, which is to be continued till the end of the course, unless some circumstances arise to alter the arrangement. Those who are of very weakly constitutions, and especially if they labour under any pulmonary complaint, will do well to add some warm milk or whey to the mineral water."

The baths are generally taken about two hours after breakfast. They ought not to be taken unless the bowels are daily opened, either by the waters or by aperient medicine. The temperature of the baths should be about 98° of Fahrenheit, or that of the blood.

* Dr. Clarus, Dr. Granville, and others state that the skin exhales an acid odour, and even feels salt to the tongue for several hours after leaving the bath. This I did not perceive in my own case at all.

Baron Aimé has collected from various sources a host of cases, of all kinds of maladies, cured or relieved by the waters of Franzensbad; but into these it is unnecessary to go. Here the tyrant fashion has caused a comparative desertion for the more attractive localities, if not more sanative springs, of Marienbad, Carlsbad, and Teplitz. The qualities of the mud, and the profusion of the gas, at Franzensbad, however, may probably turn the current by and bye in its favour.

PRACTICAL OBSERVATIONS ON DISTORTIONS OF THE SPINE, CHEST, AND LIMBS; TOGETHER WITH REMARKS ON PARALYTIC AND OTHER DISEASES CONNECTED WITH IMPAIRED OR DEFECTIVE MOTION. By William Tilleard Ward, F.L.S. Member of the Royal College of Surgeons, Fellow of the Royal Medical and Chirurgical Society, and Corresponding Fellow of the Medical Society of London. Renshaw, 1840.

This is a Second Edition. We shall not, therefore, notice it at length, but content ourselves with selecting a few points for observation.

Our author's mode of treatment may be said to hang on his physiological views, not perhaps very novel or striking, with respect to muscular power and perfection. That power he concludes to hinge:—

1. On the state of the functions of respiration and circulation, and that increased strength is a consequence of increased vascularity and circulation of blood in the part, and *vice versa*, a want of tone and power, of a deficient supply of it.

2. On the degree of exercise, or frequency with which they are called into action.

3. On the mental energy, or power of volition exerted on them.

4. That the most effectual means of increasing muscular strength, is by the frequent exercise of the power itself, and, consequently, the preservation of the healthy actions of those functions by which it is influenced.

5. That the muscular parts have a constant tendency to contract, by which they adapt themselves to the state of the limb, or parts to which they are attached.

To muscular debility Mr. Ward attributes much in the production of spinal curvature, unattended with caries. The proportion of the various kinds of spinal curvature to one another is thus stated by our author from his own experience. Of two hundred and eighty-two cases of spinal curvature there were:—

Of curvature to the right side without disease	230
Of curvature to the left side without disease	10
Of posterior curvature unaccompanied by disease	9
Of posterior curvature with disease,	30
Of that which I denominate incurvation, <i>i. e.</i> projection of the lumbar vertebræ within the pelvis	3

Mr. Ward attaches some degree of importance to the condition of the intervertebral substances. After noticing the fact of the diurnal loss of stature from compression of them, he goes on to observe, that the greater strength of the intervertebral substance in persons advanced in life, in connexion also with the muscular structure, may be assigned as the cause of their general exemption from this disorder; Mr. Pott having remarked that he had "never seen it at an age beyond forty." In youth the cartilages are less firm than in the adult age, and from a cursory review of the above experiments it would appear, that to the want of firmness of the intervertebral substance may be ascribed the occurrence of incurvation; if we, however, take into consideration the uses of the

muscles, it will be seen, that when in the erect position, if they act in a natural manner, the cartilages will not be pressed upon in an undue direction, either latterly or anteriorly, so as to produce distortion, but that the only effect of the superincumbent weight will be for the time to decrease the height of the individual, by bringing the bodies of the vertebræ more closely together. On the recurrence to the horizontal position, the spine will resume its proper length. Less consequence has been attached to the influence of the cartilages and ligaments in the production of this disorder, than the importance of their functions to the motions of the spine may seem to demand. This has arisen, however, from observation both in health and disease, that their relaxation or firmness, increase or decrease of size, power or weakness, will be commensurate with the tone and vigour of the muscular structure; that the diminished strength of the ligaments and cartilages, is a sequel of muscular debility: and that, therefore, by giving power to the muscles, an accession of strength to the ligaments and intervertebral substance will result as a matter of course.

Our author thus describes what he calls *Incurvation of the Spine*.

"There is an affection of the spine consequent upon paralysis, that has not been noticed, that I am aware of, by any author: it consists in a falling down of the dorsal and lumbar vertebræ within the pelvis; it is not of very frequent occurrence; I have seen only three cases. It may be denominated incurvation of the spine. The lumbar vertebræ project anteriorly towards the pubis, causing a great hollowness of the back, and giving rise to a peculiar waddling gait in the person affected with the disorder.

In this particular form of distortion, in addition to the ordinary means, I have recommended that the patient should make use of chairs as little as possible, and rather sit on a couch, or on the ground, with the legs folded in the manner of the Turks, or as tailors are seated when at their usual employment."

Mr. Ward's plan of treatment consists in regulated diet—the exclusion of improper muscular habits—the horizontal posture—and judicious muscular exercises. He observes of the inclined plane—

"The inclined plane has been much used for the purpose of confining the body to a particular position, in the recumbent state, for a considerable length of time, without allowing any alteration of posture. This is extremely disagreeable to the patient, and sometimes productive of distressing feelings, without being compensated by any particular advantage that may not be gained by allowing rest on a mattress or sofa, without restraint on the motion of the body.

It has been remarked to me by patients themselves, as well as by those around them, that they arose from the former not only without feeling refreshed, but sometimes greatly fatigued; and if we reflect, that the alternations of position in the body throughout the day, and even during sleep, are so many changes to relieve the contractions of the muscles, and that in this confined attitude a great number of them must be kept in action during the time it is persevered in, and that they cannot support long continued exertion without great weariness supervening, we shall be at no loss to discover why such an effect should be produced."

A favourite exercise is this,—a weight appended to a cord is passed over a pulley, and the other extremity, having a strap attached to it, is fastened round the patient's head; the pelvis being fixed, the patient is directed to raise the weight by drawing the head and trunk backwards, and to repeat this effort until fatigue is produced. The frequency of repetition of this exercise of the muscles, and the weight of the body to be raised, must, of course, depend on the patient's strength. After each effort, it is advisable to take rest, by lying down on a couch, or sofa, in order that the muscles may not be placed on the stretch, and thus prevented from recovering themselves. This mode of exercising the muscles is equally applicable to the anterior curvature of the spine, when not connected with caries, as to that which takes place laterally.

Friction and Shampooing are also beneficial. He objects to the opinion

entertained at times and given that the patient will "grow out" of her distortion. He has not found such predictions true. He adds with candour,—

"I beg here not to be understood, as wishing to assert, that I have in every instance effected a complete restoration of the spine to its proper shape in cases of lateral spinal curvature, unaccompanied by disease of the bone; a regard for truth compels me to admit, that in several cases of long standing, treated by me upon the plan before mentioned, and where, in addition to the above means, extension has been resorted to, I have failed; the curvature originally, perhaps, between an inch and a half and two inches, has been reduced to within a quarter of an inch, beyond which, an advance could not be made; although I have every reason to believe that my patients have strictly followed my injunctions in every respect, both with regard to exercise and the strict observance of the recumbent posture. In these cases there was no suspicion of diseased bone; if there had been, I could not have used the same means (extension) without producing mischief. The average rate at which improvement takes place, presuming the curvature to be of the extent of an inch and a half or two inches, is, half an inch the first month, and one-eighth of an inch every succeeding two months. I have witnessed some cases, where the diminution of the curvature has proceeded more quickly; these are, however, rare, occurring either in natives of India, or very young subjects, or where the progress of the distortion has been unusually rapid."

Deformity of the Chest.—There is a chapter on this. The malformation termed "chicken-breast" is that more particularly dwelt on. We agree with Mr. Ward on the tendency of the chicken-breasted to pulmonary as well as to cardiac disease—on the gravity, therefore, of the affection. Passing over his theory of its causation, we come to his mode of treatment.

"The method which I have employed with regard to the local means in those cases, where the spine has been exempt from disease, has been that of placing the intercostal muscles and those connected with the anterior part of the chest on the stretch, by placing the patient in a standing position, with the back against a cylindrical piece of wood, and the arms extended backwards. By this means an extension of the pectoral muscles is produced, and they are thus brought into full action upon the ribs, as well as the muscles of the abdomen which are opponents to them. The position, as well as the condition of the muscles, may be imagined by that of a person in the act of attempting to throw a summerset backwards. While in this situation, the patient is desired to take deep inspirations. I direct manipulation, and afterwards percussion, to be employed for one or two hours during the day, gradually increasing them in force according to the influence produced on the patient.

In addition to these means, I usually desire the patient to suspend the body by the arms, and similar modes of exercise, with a view to promote the full action of the pectorales, serrati magni, and postici muscles, &c. on the ribs, to produce the greatest possible extent of elevation of the ribs and sternum, and consequent expansion of the chest.

The benefit to be derived from this plan will, of necessity, depend much on the age of the patient; if the sternum and cartilages have not yet become completely ossified, although the disease may have existed for a considerable length of time, a greater degree of benefit may be expected by a steady perseverance in the means recommended, than if the individual be at any age when the bones have acquired their solid state; and even in the latter case, much may be done, by the increase of muscular power, for the relief of the patient."

In a chapter of miscellaneous observations, Mr. Ward attributes a good deal of certainty to muscular exercise. It is, literally, his *primum mobile*. For example. The state of spasm, says he, in which the sterno-cleido-mastoid muscle is sometimes found, denominated wry-neck, usually has its source in disorder of the stomach and bowels, and, in general, yields readily to purgatives, anodynes,

and fomentations. But if the disease should have become permanent, it admits of a cure by the means above mentioned.

A young lady, between eight and nine years of age, had been troubled a considerable time with spasmodic twitchings of the muscles of the face and head ; various remedies had been used, purgatives, mercury, arsenic, without success. Believing that the stimulus of volition might be beneficially employed, she was directed to carry a light piece of wood standing upright on the head, thus rendering it more difficult to balance ; and by perseverance in its use, after some time, the disorder was entirely removed. This, no doubt, was an instance of nervous disorder, and such are curable and properly enough treated by muscular exertion. But the wry-neck that depends on chronic inflammation of the muscle or its sheath is undoubtedly not so manageable.

Then, again, the curved legs of rickets have been made straight by exercise.

"The effect of well-directed exercise, persevered in for a considerable length of time, was also exemplified in the case of a young lady, ætat. 11, who had the bones of the thigh and leg curved forwards, in consequence of rickets, at a very early period of life. I had seen the general health suffer much from the use of instruments, and determined therefore to try the effect of exercise only. She was directed to raise herself, and support the weight of the body on the phalanges of the foot, as often and as long at a time as she could every day till fatigue was induced ; repeated twice in the day. This was continued between three and four years ; at the expiration of that time, the curvature of the bones had disappeared. In this case occasional aperients, and cold bathing during the summer season, were also resorted to."

And club-foot may be managed with equal success by the same means.

Retardation of the Pulse by Exercise.—"The influence of exercise in diminishing the frequency of the pulse, is not undeserving of notice in this place. In the case of a young gentleman, whom I directed to use considerable muscular exertion, the first effect was to produce considerable increased quickness of the pulse ; at the expiration of a quarter or half an hour, however, when the immediate acceleration from exercise had abated, the number of beats had been reduced twenty and thirty in a minute. The same effect I have also frequently witnessed in adult age. In a gentleman of forty years of age, whose pulse had regularly, during two years, beat ninety strokes a minute, it fell to eighty, and subsequently to seventy-five, on using daily strong muscular exercise."

In gouty concretions of the joints, excitement of the muscles, whether by voluntary exercise, or other modes, as those of friction, shampooing, or percussion, or a combination of all of them, may be employed with success, observing the caution before given to bring into action the muscles which move the affected joints, and to limit the friction, &c. to those parts only, rather than apply it to the seat of disease.

Mr. Ward recommends muscular exercise in the treatment of stammering, and no doubt the proper use of proper muscles is of service. He concludes with a remark which we quote—some, he says, who have not hitherto directed their attention to muscular exercise as a remedial agent, may perhaps think it has been recommended too indiscriminately in disorders apparently so dissimilar in their nature. It has however this advantage, that provided what may be termed the dose be properly regulated and apportioned to the strength and capability of the patient, no-injurious consequences will ensue from its use.

And no doubt there is truth in this, though candour must own that Mr. Ward has his hobby.

THE SURGICAL ANATOMY OF INGUINAL HERNIE, THE TESTIS AND ITS COVERINGS. By *Thomas Morton*, one of the Demonstrators of Anatomy in University College, London; and formerly House Surgeon to the Hospital of the same College. Illustrated with Lithographic Plates and Wood Engravings. London. Taylor and Walton. 1841.

Mr. Morton is favourably known to the anatomical world by his previous publications on the groin and perineum. The present work is a worthy successor to those, and will prove, we do not doubt, as great a favorite with students. The descriptions are drawn up with care, accuracy, and conciseness—the plates are lucid and illustrate the text agreeably and usefully—and the price at which the work has been got up is as moderate as could be wished.

A TREATISE ON STRICTURE OF THE URETHRA, CONTAINING AN ACCOUNT OF IMPROVED METHODS OF TREATMENT; WITH AN APPENDIX, ON DILATATION BY FLUID PRESSURE IN THE TREATMENT OF URINARY CALCULUS AND OTHER DISEASES. By *James Arnott*, M.D., late Superintending Surgeon in the Honorable East India Company's Service. Second edition. London, Sherwood, Gilbert, and Piper. 1840.

This is a second edition of an ingenious work. We shall not go into it, but merely pick out the gist of Mr. Arnott's views—his mode of dilating strictures of the urethra.

“A tube of oiled silk, lined with the thin gut of some small animal to make it air-tight, and attached to the extremity of a small canula, by which it is distended with air or water from a bag or syringe at the outer end, with a stopcock or valve, to keep the air in when received, is a description of the apparatus.

The thinnest silk ribbon of different breadths, with the edges neatly sewed together, so as to make it tubular, and then varnished with prepared linseed oil, which dries upon it, and leaves the surface perfectly smooth and soft, is what I have found to answer best. The gut of any small animal will form the lining; but that of the cat is preferable on account of its thinness and strength. The canula may be of elastic gum, or of the flexible metal used to make the metallic bougies, or of silver; and the injected air may be retained, either by a stop-cock at the outward extremity of the canula, or by a valve at the silk tube or bag itself. This last method is the only one applicable to the insulated dilator, which is a short length or bulb of the lined silk, to be distended and left in the canal, and having a bit of canula in the centre, for the free passage of the urine; the patient while wearing it being little incommoded by its presence.

The dilator, when empty, is introduced or withdrawn with the greatest ease to the patient.

As the shape of the silk tube is in our power, it may be made so as to have any desired form when distended; and the sizes of dilators may be ascertained with as much precision as of metallic bougies. It has the important property also of being permanent in its dimensions. On one or two occasions, where a silk tube of the size wanted was not ready, I substituted sewed bladder; but I found that in the moisture and warmth of the urethra, this yielded in the course of a little time, so as to become of double the original diameter, thus stretching the sound canal on each side of the stricture beyond what it could bear: and in any case where strong pressure were required, such a tube would burst before the effect could be produced.

It possesses strength to bear any degree of pressure which can be useful, for the membrane of the urethra itself would be torn, before a strong silk tube would give way: it is almost needless to add, that by injecting more air, the pressure in any given case is increased, or that it is diminished by opening the cock or valve."

"The manner of using the dilator is as follows: Though in general it passes as easily down to the stricture as a small bougie, yet, on some occasions, especially in irritable urethræ, unaccustomed to the presence of instruments, I have preferred introducing it through a smooth canula, in the manner already mentioned. As soon as the bag is sufficiently within the stricture or strictures, (if more than one exist in the canal,) as much air is to be injected into it as the patient can easily bear; and during the time it remains in the urethra, the future admission or escape of the air is regulated by his sensations; that is, if the feeling of distention abate, more may be injected; but if it should increase into pain, a little of the air may be allowed to escape."

In an Appendix Dr. Arnott thus notices the application of fluid pressure to the surfaces of the body.

"Pressure applied to the surface by bandages, is the principal remedial means in a great many diseases, as chronic inflammations, glandular swellings, diseases of the joints, ulcers, dropsies of various kinds, &c.; and operates by supporting the weakened vessels, promoting absorption, and otherwise influencing the vitality of the diseased structure. But to many parts of the body bandages are applied with so much difficulty as to be a serious impediment to their use; with every care, equable pressure can scarcely be made or maintained by them, and from the difficulty of increasing or diminishing the pressure, which is consequently rarely done in the intervals of the Surgeon's visits, much suffering or mischief often arises.

For the bandage, the equable pressure of elastic air may be substituted with great advantage, by enclosing the part to be subjected to it in a close *double* case of india-rubber cloth, of rather larger dimensions than the part, in order that, upon being inflated, a thin stratum of compressed air may surround it. The outer side of this case, or wherever it is not supported by the surface of the body, must be of strong material to resist the requisite degree of pressure, but the side in contact with the skin should be thin, and of larger dimensions than the other, for the purpose of its coming closely in contact with all the inequalities of the surface.

This case, or air bandage, may have its edges kept in contact by buckles or other convenient means; a double stocking, or long glove may be substituted in affections of the extremities. The inflation can be made by a syringe, or by the contrivance used for filling air beds and pillows.

Pressure by condensed air has already been employed in a few of the affections above enumerated, but so imperfectly, from its being greater at the margin than elsewhere, and thus forming a sort of ligature, as to counterbalance its advantages, or even to be positively injurious. The mode now proposed, enables us to apply a perfectly equable pressure to the most irregular surface, and to moderate or increase it with ease, as the sensations of the patient or other circumstances may require. Should frequent intermissions in pressure be advantageous, they can thus also be easily obtained. By the substitution of such means for the bandage, pressure may not only prove more advantageous in cases where it has already been in use, but be extended to other analogous affections, in which, on account of the imperfect means of application, it has not hitherto been employed."

SURGERY IN PARIS.

IN our last number we made some extracts from Dr. Markham's "OBSERVATIONS ON THE SURGICAL PRACTICE OF PARIS," and exhibited some of the sayings and doings of the hospital surgeons in that city. It is so important to those gentlemen themselves, to us, to our common profession, and to science, that what is wrong should be blamed, what is remediable remedied, that at the risk of being tasked with nationality and prejudice, we shall not shrink from the office of censors. It is not that we wish to drag mere errors to light—to brand mistakes—to lacerate the feelings of the diffident and nervous—to lash opinions contrary to our own. Let those who will play the part of executioners on imperfections—that is not to our taste, nor is it our custom.

But disregard of experience sanctioned by time and supported by numbers, recklessness of consequences, culpable carelessness, looseness of statement and mendacious assertion, insensibility to human suffering, and a passion for display at the expense of the well-being or the life of others—these are crimes towards society as well as science, and the interests of both demand their punishment. Whether the Parisian surgeons be guilty or not guilty, we shall not decide. Those who have watched them are the witnesses, and their evidence it is which we state at the bar of public opinion. If that evidence be unfavourable, we regret, but would not conceal it—if unjust, the aggrieved have ample means and talents for defence. Nor can they, if candid, object to the publicity or even criticism that would put down offences against good feeling, sound knowledge, and morality.

We proceed with our extracts from the work before us, selecting prominent facts or observations without (for it is impossible) an attempt at connexion or analysis.

1. *M. Velpeau on the practice of publishing Successful Cases.*

The occasion which called forth M. Velpeau's observations on the practice of publishing "successful cases" of operations, was an instance in his own practice of extirpation of one of the superior maxillary bones. This operation, to all appearances, was satisfactory in its results: and two months after its performance might be said to have succeeded perfectly; but M. V. was not satisfied, and did not lose sight of the individual. His suspicions were not unfounded, for, five months from the date of the operation, the disease began to show itself again; and this, which in most instances would have been undoubtedly given to the world as a successful case, proved in reality the very reverse. M. V. warned his auditors against taking for granted these vaunted cases; assuring them that there was no part of medical literature in which less confidence could be placed. He mentioned also, at the moment, several cases of phlebitis, which had been published a few days before in the *Gazette des Hôpitaux*, as having been successfully treated by M. Lisfranc; showing clearly, from the description itself, that these were in fact no cases of true phlebitis at all, but inflammation of the cellular tissue surrounding the vein, or, what M. V. denominates "external phlebitis."

We fancy this applies to England as well as France.

2. *M. Roux's Reprehensible Operations for Malignant Tumors.*

Dr. Markham tells us that he has seen M. Roux remove an encephaloid tumor of the testicle in its last stage of degeneration, extending towards the abdomen along the course of the cord—a tumor larger than two fists—it was an operation of great difficulty, and of great pain and suffering to the patient, but was performed in a masterly manner; the enormous wound left was covered with charpie, and ulceration and suppuration proceeded in their course for a month

favourably, when there appeared a small tumor rising up in the centre of the wound, as if proceeding from the abdomen; it increased rapidly, and when it had gained the size of an egg, M. Roux again ordered the patient into the operating theatre, and again removed a tumor: a third was not long in showing itself, and M. Roux, at last deeming all attempts to remove an immovable disease useless, sent the man into the country to die.

Surely this is unworthy the knowledge and humanity of the day. It is just what occurred in this country many years ago, before the nature and properties of the malignant morbid growths had been properly investigated or could be understood. We need not add, that such practice would not be tolerated in an English hospital now. What surgeon in this country would amputate under these circumstances?

A man presented that well-known aspect which is an infallible indicator of the progress of cancer; the thigh was enormously swelled, and covered with blue veins; a small part of the highest part of the thigh appeared unaffected by the disease, and here M. Roux amputated the limb: the operation was most difficult and prolonged; a very great quantity of venous blood was lost; the man fainted again and again after the operation, and then rallied, but he never recovered from the shock; his face was sunken and pallid and mournful, his pulse quivering, and agitation extreme, and he died on the third day after the operation. The fungoid disease proceeded from the centre of the bone, of which it had completely altered the texture; the muscles, also, all round the thigh could not be distinguished from the diseased mass.

3. *Loss of Sensibility from Injury of the Infra-Orbital Nerve.*

The man who was the subject of this injury, had fallen, and in falling had struck the lower part of the orbital ring violently against some projecting object; this blow broke in, and caused a depression of the bone above the infra-orbital canal, and thence pressure on the infra-orbital nerve, and the consequence was complete loss of sensation in all the parts which it supplies with filaments.

4. *Extirpation of the Fifth Metacarpal Bone. Inflammation of the Carpal Joints. Advantages of Extirpation of the First Metatarsal Bone.*

M. Blandin performed this operation on the hand of a young man: the bone was affected by caries, was much enlarged, and had produced several fistulous openings in its vicinity; in this operation, which M. Blandin performed by a simple incision carried along the inner side of the hand, the synovial membrane, which is continuous through the bones of the carpus, must be opened, and the consequence in this case was violent inflammation of the whole of the hand, suppuration took place beneath the fascia, and numerous openings were made in the hand to give exit to the pus—after a time the inflammation subsided, but the lower part of the wound, whence the bone was taken, did not heal. Three months after the operation, this fistulous opening still existed, and gave exit to a glairy discharge; the little finger was quite motionless, and the patient did not seem to have the slightest power over it, so that probably some of the other bones were affected in this scrofulous subject; what motion the finger might have regained, if the operation had been successful, it is difficult to say, but from analogous ablations of bone, as of the jaw, &c. it is well known that deposits of a cartilaginous nature supply well the deficiency of the bone which is lost—the inflammation consequent on this operation is well worthy of remark, and in respect to this character it may be compared to the following operation of extirpation of the first metatarsal bone of the foot where a different arrangement holds as to the synovial membrane. This operation M. Blandin performed for caries and enlargement of the bone; the consequent inflammation here was much less than in the last case, and the reason may no doubt be because only one joint is opened. This operation is neither difficult nor dangerous, and is

undoubtedly much preferable to taking away the whole of the great toe, for when this is done, it happens, that the foot may turn over, from want of its natural support in the ball of the great toe. M. B. observed that it was much better to take away the whole of the bone, than only a part, for in the latter instance, a troublesome caries often ensues, and, as had happened to himself, may require a second operation. As the articulation of the first metatarsal bone, with the internal cuneiform bone, is situated at exactly the middle point, between the heel and the extremity of the great toe; an incision is made from this point along the inner border of the foot, to the first phalanx of the great toe, and a transverse incision is made at the tarsal extremity of this incision. The tarsal, or greater extremity of the bone is first dissected out, and then the operation is easily completed. The anastomotic artery passing between the two first metatarsal bones, is almost always opened, and was in this instance. M. B. took one branch up on the dorsum of the foot. The result of this operation I cannot give, as when I left Paris, four months after the operation, the subject of it was still in bed with a fistulous opening in the wound."

5. *Wound of the Fore-arm—Diffuse Inflammation of the Deep Cellular Membrane—Propriety of lengthened Searching for Arteries?*

A healthy man, young and vigorous, was brought into the Hôtel Dieu, with a lacerated wound of the lower and front part of the fore-arm. He had, while in a state of inebriety, struck his arm down upon a glass, and broken it in pieces—several of the fragments were sticking in the soft parts. The depth of the wound, which was contused and lacerated, was not clear; from its situation the ulnar nerve was probably divided; and from the great loss of arterial blood, which had taken place, probably the ulnar artery also; compression, above and below the wound, in the course of the ulnar artery, M. Blandin thought very unadvisable: and, although the bleeding had ceased, he sought for the extremities of the divided artery, and tied them—an operation which required much dissection and labour, from the laceration of the surrounding tissues; the wound was then dressed with straps and bandage. The next day there had been no bleeding, and the wound appeared well. On the third day one of the ligatures came away; but there was swelling above the wound, and pain, so the plaster straps were removed. On the fourth day the swelling was increased, and there was every appearance of violent inflammation beneath the aponeurosis of the fore-arm: it was swelled in all directions, presented an unusual roundness, and that most remarkably in front: the skin was tense and colourless, pressure gave a sensation of deep tension, and obscure fluctuation, œdema of the cellular tissue, distention of the superficial veins (from the pressure on the deep veins of the fore-arm)—a kind of insensibility in the limb. One hundred leeches were ordered to be applied to the fore-arm, and a low diet enjoined. On the fifth day there was the same swelling, more insensibility, heat hardly natural, much fever, and the leeches had not at all relieved the symptoms, and there was every reason to believe that gangrene had already commenced; three long incisions were made through the aponeurosis, in the length of the fore-arm. On the sixth day the skin had a blackish tint, and gangrene had evidently seized the fore-arm and hand; to prevent its extension three incisions were made in the arm, and camphorated applications were ordered to be applied. The low fever was much increased, the pulse weak and quick, and delirium had occurred during the night, the belly tympanitic, and general prostration very great. Cold applications were ordered to the head, and slightly stimulating medicines to be taken. During the course of this day all the symptoms increased, and the patient died.

We make no question whatever that this was essentially a case of diffuse inflammation and suppuration in the intermuscular cellular membrane. We doubt if any thing, save, possibly, early amputation, could have saved the man. But

most assuredly a *hundred* leeches would not do so. Such practice is of very questionable propriety, in diffuse inflammation of cellular tissue it is probably highly injurious. Such local depletions must sink the powers of the part and of the system, and tend to prevent the formation of that barrier of lymph which is the only chance of safety that nature has to offer.

Dr. Markham asks if the lengthened search for the ulnar artery was right. This question seems to him answered by the case of a patient of M. Velpeau, a man, who in the same week, (during the height of the carnival,) met with a very similar accident. This man, also in a state of drunkenness, struck his arm down on a glass, broke this, and opened the radial artery, just above the wrist. M. V. merely applied pressure, and the wound healed without an accident.

Dr. Markham refers to another case of interference, which he deems, with justice, injudicious. A man fell down some steps on a bottle, broke it and wounded (with a deep clean cut) the parts above the wrist, across the course of the ulnar artery. A great quantity of arterial blood followed at the moment; he was however immediately dressed by a surgeon, with compresses and bandages, and sent to the Hôtel Dieu. M. Blandin saw him twenty-four hours after the accident; the bleeding had quite ceased, and the arm was quite easy. M. B. removed the bandages, &c. enlarged the wound, and after half an hour's search, (rendered difficult by the tendon of the flexor carpi ulnaris having been partially divided by the glass,) the ulnar artery was found untouched. Of course the operation did nothing, but inform the surgeon that the artery was sound, except causing much pain to the patient, and a probability of subsequent inflammation.

Dr. Markham thinks that in wounds of the ulnar and radial arteries *near the wrist*, compression, well applied, is of itself sufficient to arrest the hæmorrhage, and that the search for the wounded extremities of the divided artery, (generally rendered difficult by the laceration of the soft parts around, caused by the injury,) is unnecessary, productive of much pain, and very liable to be the cause of violent inflammation.

If the vessels cannot be reached with facility, we agree with Dr. Markham in considering it better to trust to careful compression. We have ourselves had a case of wound of the ulnar artery near the wrist with a knife, one of the radial where it dips between the heads of the abductor indicis, and one of the anterior tibial, where it dives between the metatarsal bones, all of which did perfectly well with compression. Of course if the ends of the wounded vessel present themselves, or can be tied with little disturbance to the parts, that would be the better plan to adopt.

6. *Deceptive and Fatal Wound of the Chest.*

A married woman entered the Hôtel Dieu, on account of a wound in her back from a knife. She said, (as it turned out falsely, for she had been purposely stabbed) that her husband had accidentally struck her with a knife, which was *broad* at the point.

On examining the seat of injury, an incised wound was discovered at the internal and lower border of the scapula, about an inch long, running in the direction of the length of the ribs, between two intercostal spaces, just external to the angles of the ribs. There was much effusion of blood round the edges of the wound, the lungs appeared perfectly intact, the vesicular murmur was clear, and no crepitation could be distinguished. There was no embarrassment of the respiration, no spitting of blood: hence no sign of injury of lungs, or effusion of blood or escape of air into the pleura; so that this could scarcely be considered otherwise than as a simple incised wound; in fact, such was the distinct diagnosis of the case. The length of the wound was to be accounted for by the breadth of the point of the knife. The case was held as of the slightest importance; but still, as M. B. thought on the bare possibility of a deeper injury, he ordered blood to be taken from the arm.

On the second day the wound was closed, and everything was perfectly well; on the third, she thought of leaving the hospital, as her cure seemed complete; she, however, for some cause, did not obtain her dismissal. On the seventh day (three days ago,) her case suddenly presented quite a different aspect; her respiration was difficult, quick, and jerking; pain in the side on pressure; supuration in the wound, and the discharge mixed with the coagula of the ecchy-mosed blood; a friction sound was heard in the chest. She was immediately ordered to be bled, and thirty leeches were applied over the seat of pain, then a poultice, and the strictest diet enjoined. The next day she was more depressed; the chest was dull to percussion at the lower part, and respiration inaudible below; but at the upper part of the lung cegophony was distinctly recognized. She was very feeble, and her intellects were confused; a large blister was applied over the chest. Yesterday she was more enfeebled; a yellow tint of the skin and conjunctiva, intimated some affection of the liver, whether arising from continuous inflammation or secondarily. To-day the dullness is increased over the chest, and the respiration is more difficult; the effusion of pus into the cavity of the pleura was very evident; it flowed out in abundance from the external wound mixed with flocculi. She died on the following day.

On examination of the chest, the pleura was found (on the side where the wound existed,) highly inflamed, and a great quantity of pus existed in its cavity; the lung was compressed to the back part of the chest, and a wound existed in the pleura, corresponding to that on the outer side of the chest.

This case is certainly calculated to inspire caution. It would seem that, after the first, the attention directed to it was insufficient, and it was only when grave symptoms arose that *that* was re-awakened. All wounds of the parietes of the great cavities should be watched.

7. *Difficulty of Matter escaping through Muscles.*

"As to the difficulty of liquids passing through openings in muscular fibres, *i. e.* openings parallel to their length, I might mention a case where M. Lisfranc and another surgeon, distinctly determined the presence of pus under the pectoral muscle, an incision was made through this muscle, but not a drop of pus, or fluid of any kind, followed. Both the surgeons were amazed: 'Donnez-nous une prise de tabac,' said M. D.; and then suddenly the thought struck him, to separate the lips of the wound, on doing which, a jet of pus immediately sprung out."

8. *The Politest People in the World.*

M. Lisfranc, remarking on a doubtful case of a tumor on the metacarpal bone of the thumb, said, it was a pity it had not fallen into the hands of some villainous perruquier, he would have made a fine lesson of it, running through every thing, *prepared* upon the subject. Il faut le couper, continued M. L., to find out its nature, and what does it signify if it is lamb or mutton, beef or veal, the only practical point is its extent and relations.

To understand the force and good taste of this, our readers should be apprised that the "villainous perruquier" means every other hospital surgeon of Paris. Can we wonder that the profession holds a low place in public estimation in France?

9. *Rough Surgery.*

A woman, æt. 64, of hale and healthy appearance, came into the Hôtel Dieu, under M. Blandin's charge. She journeyed to Paris, from the country, under the advice of the surgeon who attended her there, to undergo amputation of the leg, for this tumor, which he deemed of a cancerous nature.

She says that about three or four years ago, she, for the first time, noticed a small swelling below the internal malleolus, a tumor, of whose origin she could give no account, except that it might have been caused by the pressure of the heavy wooden shoes worn in the country. She then experienced no pain or inconvenience from it, and she took no further notice of it; but it has gone on gradually and slowly increasing up to the present moment. It is situated immediately below the internal malleolus of the left foot, is round, a little larger than an egg, slightly flattened above; it moves with the motion of the foot, and seems to have no connexion with the ankle joint, or the tibia; its base is hard, like an exostosis, and it has a hard fluctuation in the centre—is elastic; the skin surrounding it is of a violet hue, and varicose branches of the internal saphena vein course around it. The disease is quite local; neither the foot nor the leg is affected by it, motion is quite free, and the lymphatics and ganglions healthy. The woman's general health is good: but she complained that her sleep was latterly somewhat broken by starting pains in her toes (which might be supposed to depend on the pressure of the tumor on the plantar nerves.)

M. Blandin thought it was a tumor arising from inflammation of the perios-teum, which had been probably bruised, or in some way injured, the base having become hard, from the deposition of osseous and cartilaginous matters. As it seemed attached only to the astragalus and calcaneum, M. B. determined to make a crucial incision over it, dissect back the flaps, and attempt its removal from its connexions; if this was impossible, or if it turned out to be of a fungoid character, and projecting deeply among the muscles, nerves, &c. of the foot. M. B. decided, that he would immediately amputate the leg.

The operation of dissecting this tumor was tedious, and appeared to give very much pain to the patient; when it was completed the tumor was ascertained to be situated in the body of the posterior tibial nerve, and was a cartilaginous deposit among the filaments of this nerve, developing itself in a direction towards the foot, and spreading among the nervous fibrillæ of the internal and external plantar nerves. M. B. having determined that it was impossible to remove the tumor, at once amputated the leg, at the junction of the middle with the inferior third of the limb, and by the circular operation.

The day after these severe operations, the patient was in a high state of traumatic fever, and her nervous system seemed much agitated. On the second day, the stump looked well, and she appeared more tranquil, and the fever was certainly diminished. On the third day she was worse, her face was very expressive of suffering and dejection. She had been delirious during the night; her pulse quick and feeble, tongue dry and brown, the stump unhealthy in appearance, and no sign of vigorous action in it; her respiration was hurried, and she died during the day.

There can be no doubt that this patient died from the harshness of the shock upon her nervous system.

10. *Operations for Hæmatocele.*

M. Velpeau rejects M. Roux's* practice of extirpation of the testicle, and Dupuytren's, of taking away only a part of the tunica vaginalis. His method is either to evacuate the sac, if its contents are fluid enough, by means of the trochar, and then to throw into it an injection of iodine. If the cyst contains coagulated blood, &c. then he makes an incision into it, large enough to give free exit to its concreted contents: M. V. avers that this operation succeeds perfectly.

11. *Hernia Humoralis—Epididymitis.*

"This disease is by many authors considered as an inflammation of the body

* "I am not certain if this was not Boyer's operation."

of the testicle. One of the latest English writers says, 'the body of the testicle swells, with great pain and tenderness.' M. Blandin is of opinion, that in ninety-nine cases out of a hundred, the epididymis* and vas deferens are the seat of this inflammation, and not the testicle. Several cases, which he pointed out in the Hôtel Dieu, and which I observed in other hospitals, strongly confirmed this view, which is strengthened by anatomical considerations. It is difficult to conceive, how so dense coverings as those which surround the testicle, could admit the rapid swelling which so often takes place in this disease; and if the progress of the malady is carefully watched from its onset, it is not difficult to determine that this swelling is really seated in the epididymis and vas deferens. The epididymis, when much inflamed, spreads out, swells, and embraces the whole of the testicle, so that when the inflammation is at its height, this cannot be felt. But before it has reached this point, it often happens, that in some part of its circumference the testicle may be felt of its natural size and hardness. M. B. pointed out this circumstance several times, and it was clearly appreciable, the hard body of the testicle being felt, where it was as yet uncovered by the swelling epididymis. In all the cases (and they were a great many) which I observed, there was not the slightest necessity of calling in the aid of sympathy to account for this swelling; for the sensations of the patient could follow the inflammation proceeding along the course of the cord."

No doubt of all this.

12. *The Starch Bandage.*

"The treatment of nearly all kinds of fractures by the starch bandage, is now almost generally adopted by the Parisian surgeons: M. Lisfranc and M. Jobert (of St. Louis) alone, I believe, raise their voice against the practice. It is adopted in the practice of Velpeau, Roux, and Blandin, and with the most favorable results. The invariable practice of all the surgeons who employ this method, is, to dress the fractures for the first days merely with the common splints and bandages; but when the moment of inflammation has passed, and when the process of union may be supposed to have commenced, and absolute rest rendered requisite, to apply the immoveable apparatus."

M. Roux treats all his fractures during the first interval by a linseed-meal poultice, smoothly applied over the fracture; then bandages, pads, and splints: these are changed every day, until the starch bandage is applied. This meal poultice is sometimes, but not always, employed by M. Blandin. Dr. Markham does not know how these gentlemen manage with fractures of the thigh.

13. *Complete and Incomplete Fractures of the Clavicle.*

In infants, said M. Blandin, in whom the periosteum is very strong, this is often not ruptured, and then there is no displacement. This, sometimes, though rarely, happens in adults, and has been often the cause of error and mistakes. M. B. said, that he was the first who noticed this species of fracture. There is no displacement when the fracture is between the coraco-clavicular ligament, and the acromio-clavicular articulation, so that this displacement is easy in some cases, impossible in some, and rare in others. M. B. had treated a case of fracture without rupture of the periosteum, and consequent displacement in an infant at the Hôpital Beaujon. There is no difficulty in recognizing this fracture, if its possible existence be only kept in view. Dupuytren almost entirely abandoned the treatment of this fracture to nature, merely placing the arm of the

* Engorgement of the epididymis may be always destroyed, M. Lisfranc observed, by leeches along the cord. It seldom degenerates into scirrhus, but rests a long time in the same state. There are, however, exceptions; where it does, therefore, always combat these engorgements.

individual in a sling; but he was decidedly wrong. The pieces ride on each other, and hence irritation and inflammation of the periosteum, great pain, and consequent deformity. Dessault has pointed out the very best treatment of this fracture; has shown the necessity of continued extension, of raising the arm, and separating the fragments, by placing a cushion in the axilla, of pressing forwards and inwards over the chest, and of bandaging the whole arm; the great object of all being to force the shoulder backwards and outwards. M. B. followed this treatment in two cases, applying the starched bandage to fix the arm, and the results exceeded any thing Dr. Markham had seen in England.

We would observe that many surgeons have noticed the incomplete fracture of the clavicle, as of other bones, which takes place in the young. In these cases, however, the bone breaks like a green stick, and it is not the periosteum only that is untorn. We would add our testimony, such as it is, to the superiority of Dessault's plan of treating fracture of the clavicle.

14. *How are we to operate for Phymosis?*

M. Ricord always performs the operation of circumcision in this complaint, when it is possible, but when the phymosis is complete, when the prepuce is small, and tightly applied to the gland, then another operation must be performed. In performing this, M. R. is not contented with the common incision, carried along from the opening of prepuce to the base of the glans, (on the upper part of the penis;) but after making this, he practises another in a parallel direction, on the lower part, at the frænum; then seizes the flap left on either side with a pair of forceps, and cuts them off with the scissors. This operation is long, comparatively, and painful; but M. R. declares that the result, which is really excellent, well repays the extra pain, for scarcely any deformity ensues; and this is of the highest possible importance, added M. R. for there is no part of the body where surgery ought to be more coquetish.

In performing this operation (and the same rule applies in all other operations on the penis) the points of the incision should be marked out by nitrate of silver, at the spot where the knife's point should make its appearance at the base of the glans. In circumcision, also, the line of incision should be marked; a narrow, fine, sharp knife should be used. After making these observations, M. R. proceeded to operate on a case of the nature mentioned above, where the prepuce was firmly applied to the glans, and was very short. M. R. unwittingly made use of a very large, dull knife, and did not mark out the point where the incision ought to terminate. The consequence was that the knife, when pushed forwards, instead of piercing the skin at the base of the glans, puckered up the skin before it, so that when the knife was forced through, and the incision completed, the skin of the dorsum of the penis was ripped up very nearly to the pubes.

M. R. said that he had seen Dupuytren and his own predecessor at the Hôpital du Midi, cut off the glans penis as well as the prepuce, in operating for phymosis by circumcision. M. Blandin's operation, and M. Velpeau's also, consists merely in one single incision along the dorsum of the glans, through the prepuce.

We have ourselves, when the prepuce has been very long, performed an operation similar to M. Ricord's. We were not aware that it was done by any but ourselves. In most cases, however, it is unnecessary, simple division of the dorsum of the prepuce sufficing. If there is no part of the body where surgery should be more "coquettish," there are few where pain is less liked, and the majority of patients think one cut enough. By-the-bye, a good illustration that of French surgery, when M. Ricord having said that a sharp knife and a caustic mark were indispensable, took a blunt one, and made no mark at all! On the advantage of the former we quite agree with him; the necessity for the

latter is not so obvious, if a surgeon takes care to manage the outer fold of foreskin with his thumb, so that he shall transfix it at the proper place.

15. *Death from an Autoplastic Operation for Fistula Urethræ.*

The following case is not uninteresting, nor is it, perhaps, without its warning lesson.

The patient was a healthy man, about 45 years old. The disease had existed from infancy, and no remedy had been tried for its cure, when he presented himself at the Hôtel Dieu. The fistulous opening was situated in the median line in front of the scrotum, it appeared very small when the penis was retracted, but much larger when it was extended, being then nearly half an inch in length; there was no doubt as to its being an urethral fistula, for a probe could be passed directly into the urethra. On being more narrowly questioned, he at last admitted that when a child he had put a ring round his penis, and this was no doubt the origin of the fistula, and of the destruction of the urethra at the part, for M. Blandin, in introducing a bougie observed, that the lower part of the urethra was entirely destroyed. M. B. determined to attempt its cure by Earl's method of operating, by an autoplastic operation—for this purpose a portion of the integument above (nearer the root of the penis) the fistulous opening, about eight lines square, was entirely dissected off—the callosity around the opening was also removed, and then a flap half an inch long was dissected up from below the fistula, and was then drawn over it backwards towards the root of the penis, (thus making the penis, as it were, describe a curve with the concavity below,) and was united by sutures to the broad flat surface from which the skin had been already removed. M. B. hoped, by this means, to prevent any small quantity of urine, which might pass from the urethra, being a hindrance to adhesion in every part of the surfaces brought together—an elastic catheter was passed into the bladder. The second day after the operation the penis and the parts around the wound were enormously swollen, slight union appeared to have taken place in one point, the urine passed freely by the catheter, and the patient had noticed none passing by the wound; one or two of the pins (by which the sutures were formed) were removed, by reason of the great constriction they caused; the next day (third) no further union seemed to have taken place, and all the sutures were removed. After this the patient (who was a most irritable subject, and who never ceased lamenting the day he applied at and entered the hospital) went through a series of misfortunes, which terminated in death; high inflammation arose in the parts, no more union took place, and that which had taken place was destroyed; pus, blood, and urine, began to flow from the wound; the man became very restless and feverish; two or three abscesses formed around, incisions were made to evacuate them: the inflammation appeared to have destroyed part of the urethra, for after eighteen or nineteen days from the operation, infiltration of urine took place, and death was the consequence.

16. *Dr. Markham a warm Patron of the Speculum.*

"The virulent abuse which the use of the speculum vaginæ has excited, as being immodest and unnecessary, can only be sanctioned by those who are ignorant of its purport, and have never seen its employment. Those who have witnessed its assistance—(I might say, the absolute necessity of its use, for it appears to me, to be to the vagina and uterus, what the stethoscope is to the lungs)—cannot for one moment hesitate to affirm, that humanity must gain infinitely by its aid. An unbiassed individual who has once seen its proper application, cannot but be struck by its utility; and this once proved, of course the idea of immodesty ceases at once.

To what does the English physician attribute those acute pains which females suffer in the middle and early periods of life? the violent pains felt in the hypo-

gastric and lumbar regions, and in the nates, at the back of the sacrum, in the groins during walking,—and these pains, accompanied by an abundant discharge, of a white colour? The physician can give no cause. The very name itself applied to these complaints, the *fluor albus*, shows plainly how the effect has been taken for the cause; and the futility of the treatment employed, the endless round of injections and tonics prescribed, might be enough at least to give a suspicion that the true nature of the disease had yet to be described."

Now we plead guilty to "abuse" of the speculum—we have said that its employment as a common means of diagnosis is immodest—we have protested that, in the majority of cases, it is unnecessary. And, under Dr. Markham's fire, we do not flinch from repeating this, nay more, we assure him, that should he endeavour to carry into practice in this country Continental notions of what is *decent*, he will assuredly make shipwreck of his character and fortunes, as some of our travelled youth have done. We do not mean to rip up an argument only just skinned over, and as sore as recent, nor to defend the opinions we have expressed—opinions not founded on any affectation of boisterous prudery, but the simple utterance of those sentiments of delicacy which honourably characterise English society. We *do not* say that the speculum should be proscribed—but we *do* say that it is used to an excessive, and a disgusting extent in the Parisian hospitals. If we wanted evidence of this, we should find it in Dr. Markham's own queries and statements. As if English physicians were so ignorant as to know nothing of the general symptoms of congestive and inflammatory affections of the uterus,—as if "the touch" could give no useful indications—as if, in all cases, the filthy speculum must be introduced—as if the following opinions founded on its constant employment were not proof of the fallacy of the results to which such employment leads!—

"*Chlorosis* is caused, some say, by alteration of the blood: and I do not deny, says M. L., that cases of this nature may exist, and that there may be some therapeutical agents capable of inducing an alteration in this bad constitution, and may cure the disease; but it is also, most undoubtedly, caused, in some instances, by engorgement of the uterus, and then are these preparations perfectly useless. And is the physiology of the disease so difficult as to be incomprehensible? When a new function first takes on its office, is it always subject to disturbance? and to this disturbance is not the uterus subject at puberty? Is not this the pure induction, spite of the books of the perruquiers? These engorgements are to be known by the low sinking pains in the lower part of the abdomen, pains in the loins, back, groin, &c. and above all, are to be felt either by the rectum, or the vagina, or by both. M. L.'s treatment is entirely antiphlogistic, and consists in local and general bleedings most especially."

We fancy that the cases of chlorosis which would be benefitted by local and general bleeding must be few indeed. But we quit the subject.

17. *Amputations in Paris.*

Circular Amputation the Favourite.—"I never once saw the flap operation performed in Paris: the circular appears the only one recognised by the Parisian surgeons. This steadfast adherence to the ancient method, I have no means of explaining, as I never heard mention made of the flap operation, even as a subject of discussion."

Then surely M. Lisfranc must have turned round. By the way, this is an answer to those who are always telling us that it is only a few bigotted surgeons in England who still stick to the circular operation. Paris has been pointed to, as the city of flaps. *Tout au contraire*—not a flap is to be seen there! But that there should be no discussion, no "palaver," as the negro consultants have it, on the subject, is queer. Malgaigne's little book, last published on these matters, would not lead us to expect this. After all, we suspect that the results of the circular operation are the best.

18. *Want of Success after Amputation.*

"As regards the healing of the stump, it is almost impossible to make a comparison between the results of the flap operation, now so generally practised in England, and the results of the circular, as performed at Paris,—for several of the leading surgeons still hold it, both by precept and example, as highly unscientific, to attempt union by the first intention, and their reason is, because this first intention so very often fails;—but why does it fail? No man in *England* can guess; but I think, that if any unbiassed individual will pay a visit to any of the large Parisian hospitals,—follow the changes in the wound of an individual, who has just entered for an injury, being previously in perfect health,—if he will notice the characters which almost every wound takes on—the ever existing erysipelas, and its distressing consequences, he will at once allow that there exists some other cause than the idiosyncrasy of French limbs, or the particular nature of the healing process itself, to account for its failure. Moreover, are all the rules of the operation properly attended to? I doubt this. The heat in the hospitals is most oppressive; ventilation, or opening of a window, is not permitted; each bed is covered, above, and on all sides, by curtains; and, what seems almost incredible—certainly incomprehensible—when an individual has undergone an operation, the curtains of his bed are *doubled* on every side, and he is covered up with as much care from all currents of air, as if he were an exotic in the hotbed of a gardener. If the records of the medical annals of the Hôtel Dieu for centuries past could be opened, I do fear, that they would contain a most terrible picture. Every epidemic has raged in this hospital, and always with the most frightful results. To give an instance: in 1746, in the month of February, of twenty women attacked by puerperal peritonitis, in the wards for lying-in women there, scarcely one recovered; in the years 1774 and 1775 one in every seven women who were attacked, died, and seven out of every twelve who were delivered there were attacked. In one winter Dupuytren lost twenty-one out of twenty-six amputations below the knee. And let anyone who wishes to be convinced, visit that hospital at any time, and see erysipelas always present—often raging—in the surgical ward; and he will have much less difficulty than he had before, in understanding why the wounds from operations almost always fail to heal by the first intention. No doubt, the Hôtel Dieu presents the worst picture of Parisian hospitals; but the same circumstances prevail, to a greater or less extent, in every hospital. Moreover, as to the dressings to produce union, are they such as are appropriate? M. Blandin (who is the only gentleman who attempts the first union) says, no; and in fact, accounts for the failure of his *confrères*, through their faultiness on this point. M. Lisfranc never attempts union by the first intention; and he adds, occasionally, another peculiarity to his operation, viz., slitting down the lower flap, according to the invariable proceeding of Baron Larrey; and this, with the intention of being enabled, when he pleases, and when granulation has commenced at the bottom of the wound, to bring the parts into more perfect contact. The only possible advantage which this addition seemed to me to give, was its allowing free issue to any puriform matter, and preventing any collection taking place. Its obvious inconvenience, in uselessly enlarging the wound, struck me as quite condemnatory of its practice. M. L. always dresses the stump the day following the operation. M. Roux heals stumps by the established method; though now and then he attempts the first intention; but his rule of practice I could not discover. The only good stump I saw in his ward, was one healed by the first intention in fifteen days after the operation. The appearance of a large, red, flat surface, covered with granulations, and often with a bone projecting from the centre, was a curious view to an English eye, and it was one with which I was made quite familiar in M. R.'s wards. The results of his practice, I should say, were unlucky, for I have seen exfoliations of bone take place—abscesses form in all directions—in fact, I believe, never an amputation (where union by granu-

lation was attempted), without some accident. The reason of the frequency of these secondary accidents may, I believe, be in great part sought in the unhealthiness of the Hôtel Dieu, for they happened also to M. Blandin; but in part also, from the nature and conditions of the cases on which M. Roux operates. Thus, I have seen M. R. amputate an arm below the shoulder, in an individual in the very last stage of hectic and feebleness, and whose whole arm was a mass of suppuration: two days after the amputation, an abscess was opened beneath the *pectoral* muscle, and an enormous quantity of discharge evacuated; the abscess reached in every direction, and the man died on the third day. In the dressing of stumps, M. Roux, as in all other cases of operation, is guided by rule; and this, I believe, prescribes the fifth day after the operation as the day for the first dressing.

M. Blandin always attempts union by the first intention; but he follows a method somewhat peculiar to himself in his after-treatment of the stump—a method which, as he himself affirms, is the cause of the greater success of himself than of his colleagues in the sequelæ of his amputations. It consists in invariably examining the wound the day after the operation, and for the following reasons—that no injury can result from the examination; that, by this, the state of the parts can be exactly determined; that, if necessary, by removing one of the plaster straps, free issue may be given to any discharge that may have accumulated in the wound; and that, if union has taken place in the whole length of the wound externally, (for M. B. asserts, that it is totally impossible, under any circumstances, for union by the first intention to take place in the depth of the wound,) it is necessary to introduce the forceps to break down the adhesions in some part, (the part where the ligatures project,) in order to give free issue to the confined seropurulent discharge, which almost always collects; that the confinement of this discharge will, and very often does, cause great swelling of the stump, pain, abscesses, and total prevention of union by the first intention. These reasonings of M. B. seem founded on true and just grounds, and are well worthy of notice; and, as I said before, want of attention to some of these points, may have been in part, cause of the failure of the first union in the hands of other surgeons at Paris. M. B. considers torsion as effectual in arresting hemorrhage of the arteries, as the ligature, and has successfully employed it on almost every artery that is divided in amputation, but never employs it at present, except occasionally, to demonstrate its effects to those who follow his clinique; and for the reason, that torsion really retards, instead of favoring adhesion by the first intention. In applying torsion, great tearing of the surrounding parts is caused, and consequent inflammation is thus often produced, arising from the difficulty of seizing the vessel itself, and from seizing and twisting more parts than the vessel. In regard to amputation below the knee, M. B. observed, that the operation immediately above the ankle-joint, was much less grave than that in the point of election, and that statistics proved this, (which we can very well imagine beforehand), for in twenty-five amputations immediately below the knee, twenty-one deaths took place, while in fifty cases at the lower third of the leg, six only died. [M. B. did not mention whence these statistics came; but in reading some remarks on Dupuytren's practice, I was struck by the circumstance mentioned in them, viz., that in one unfortunate season, when the Hôtel Dieu was particularly unhealthy, M. D. lost twenty-one out of twenty-five amputations. The statistics given by M. B. seem too preposterous, if we consider the deaths as occurring under ordinary circumstances. M. B. said, that he fancied he had seen gangrene happen in amputation in the lower third of the leg, from the small quantity of nerves and vessels there.]

What do our readers say to this! The faults of French surgery are nowhere more glaring than in the after-treatment of amputated limbs.

THE ANATOMY OF THE NERVES OF THE UTERUS. By *Robert Lee*, M.D. F.R.S. Physician to the British Lying-in Hospital, and Lecturer on Midwifery at St. George's Hospital. London: H. Balliere, Regent street. 1841.

Of our worthy and able friend, Dr. Robert Lee, it is not necessary for us to speak in commendation. His unwearied industry and professional enthusiasm have obtained for him an European reputation in pathology—we may now add, in anatomy. Right or wrong, the investigations which have produced the work before us, stamp their author as one destined for philosophical discovery.

Dr. Lee first cites, for the purpose of exhibiting the confusion that obtains in description and opinion, the conflicting statements of authorities respecting the uterine nerves. These we need not repeat—they lead only to the conviction that fresh and more accurate inquiries are necessary—and that, prior to the dissections which our author has made, the records of none were complete or convincing.

Dr. Lee describes the nerves of the gravid uterus in the seventh month—those nerves in the sixth month—from two specimens, in the ninth month—in the fourth month—in the third month—ten days after delivery—the nerves of the unimpregnated uterus—and, finally, the nerves of the uterus in the mare.

The first preparation of the uterine nerves was made by our author in April, 1838. It was deposited in the Museum of St. George's Hospital, on the 1st of October of that year. The nerves were of the *Gravid Uterus in the Seventh Month*.

2. Nerves of the Gravid Uterus in the Sixth Month.

On the 18th December, 1838, a woman in the sixth month of pregnancy, died in St. George's Hospital, a few hours after the fœtus and its appendages had been expelled. The description of the nerves is exceedingly precise, and we shall introduce it.

"Behind the uterus, the aortic plexus divides into the right and left hypogastric nerves. These nerves soon sub-divide into a number of branches to form the right and left hypogastric plexus. Each of these plexuses, after giving off several branches to the ureter, rectum and uterus, descends to the side of the neck of the uterus and terminates in a large oblong ganglion. The left hypogastric plexus first sends off from its upper and anterior part, some small branches to the ureter. About midway between the aortic plexus and the ganglion at the cervix, the hypogastric plexus sends off several considerable branches directly into the upper part of the cervix uteri, which spread out under the peritoneum of the body of the uterus. The hypogastric plexus then gives off a large branch, which passes between the ureter and uterus, to the trunks of the uterine veins and artery. This branch enlarges and becomes thin and broad as it approaches these vessels, and terminates in a great plexus of nerves, which completely encircles them. This plexus is joined below by several branches, which proceed from the anterior and superior part of the ganglion, and which pass on the outside of the ureter to the plexus, around the vessels. From the inner surface of the ganglion, several branches go to this plexus which run on the inside of the ureter, so that a loop of nerves surrounds the ureter, as well as the uterine artery and vein. From the plexus surrounding the vessels, three large trunks of nerves proceed upwards with the vein to the upper part of the uterus, enlarging as they ascend. The posterior branch sends off in its course smaller branches, which accompany the ramifications of the uterine vein, on the posterior surface of the uterus, and spread out upon the inner surface of the peritoneum. Passing upwards beyond the junction of the spermatic with the uterine vein, and running between the peritoneum and a great plexus, situated on the body of the

uterus, it spreads out into a web of thin broad branches and slender filaments, some of which are inserted into the muscular coat and peritoneum, and others follow the veins and arteries to the fundus uteri, and pass with the vessels into the muscular coat of the organ.

The middle and anterior branches closely adhere to the uterine vein as they ascend and form around it several plexuses which invest the vein. From these plexuses, branches are sent off to the anterior surface of the uterus. These nerves ascend and closely unite with the great transverse plexus on the body of the uterus.

This plexus on the left side arises near the mesial line on the back part of the uterus, midway between the fundus and cervix, from a mass of fibres which adhere so firmly both to the peritoneum and muscular coat, that it is difficult precisely to determine their arrangement. From these fibres, the plexus proceeds across the uterus in the form of a thin web to the point where the spermatic vein is leaving the uterus. After closely uniting with the nerves accompanying the uterine vessels, this plexus proceeds outwards to the round ligament, becoming less firmly adherent to the peritoneum, where it unites with a plexus on the anterior surface of the uterus and spreads out into a great web under the peritoneum. This plexus is loosely attached through its whole course to the subjacent muscular coat, by soft cellular membrane.

From the second, third, and fourth sacral nerves, but chiefly from the third, branches pass into the posterior border of the ganglion at the cervix, and are lost in its mass. From the inner surface of the ganglion, numerous small white soft nerves are given off to the neck of the uterus, some of which ramify under the peritoneum and others pass deep into the muscular coat. From the anterior and inferior borders of the ganglion, many large nerves are given off to the bladder and vagina, and from its posterior margin to the rectum.

On the left side, the spermatic nerves form a plexus around the spermatic artery from about two inches from its origin. A small branch is then sent off from the spermatic artery to the ureter accompanied with some filaments of nerves. The spermatic artery then passes down between the spermatic veins, and some of the nerves leaving the artery, get on the outside of the veins and numerous filaments are observed ramifying on the coats of the veins, and also upon the absorbents, and forming loops around them. Branches of nerves are then sent to the fallopian tube, and to the ovarium, at the base of which a great plexus is formed. The spermatic nerves then appear to enlarge as they proceed towards the uterus along with the artery and veins, and in their course filaments are sent to the peritoneum, and with the veins of the ureter. Some filaments pass down along with the spermatic artery to anastomose with the nerves accompanying the uterine arteries and veins, and other branches pass to the round ligament and to the great plexus on the body of the uterus.

On the right side of the uterus the distribution of the hypogastric, spermatic, and sacral nerves does not differ essentially from that now described as seen on the left side. The form and situation of the great plexuses on the body of the uterus are, however, more distinct, and it presents the appearance of a white pearly fasciculated membrane, about a quarter of an inch in breadth, proceeding from the mesial line at right angles to the nerves accompanying the blood-vessels, across the body of the uterus, to the round ligament where it unites with a plexus on the anterior surface of the uterus. Numerous branches are sent off from the upper and lower borders of the posterior plexus to the muscular coat of the uterus. An extensive and intimate union at various points is distinctly perceptible between the branches sent off from this plexus and the branches of the nerves accompanying the uterine arteries and veins, and those which proceed from the hypogastric plexus and cervical ganglion to spread out and form a great nervous web under the peritoneum on the posterior surface of the uterus.

On the anterior and upper part of the neck of the uterus, there is a great mass of reddish coloured fibres, firmly interlaced together, resembling a thin broad ganglion of nerves, into which numerous large branches of the hypogastric nerves on both sides enter, and to which they firmly adhere. From the upper part of this fibrous substance, there passes up under the peritoneum over the whole anterior surface of the uterus a great plexus, the branches of which pass into the muscular coat, or unite with those nerves proceeding with the blood-vessels to the upper part of the uterus. Prolongations of this plexus also extend to the round ligaments, and some of its filaments unite with those of the spermatic nerves.

From the form, colour and general appearance of these plexuses on the body of the uterus, and the resemblance they bear to ganglionic plexuses of nerves, and from their branches actually anastomosing and coalescing with the hypogastric and spermatic nerves, I was induced to conclude, on first discovering them, that they were nervous plexuses and constituted the special nervous system of the uterus."

3. *Nerves of the Gravid Uterus in the Ninth Month.*

Dr. Lee describes two dissections of the Gravid Uterus at this period. We shall quote the second.

"On the 12th of September, 1840. I enjoyed another opportunity of examining the nerves of the uterus at the end of the ninth month. The fetus and its appendages had been expelled a short time before the death of the patient from whom the uterus was obtained. The spermatic nerve on both sides passed off from the renal plexus, and after accompanying the spermatic arteries for about two inches, several considerable branches left these vessels and passed to the veins which they surrounded and followed to the uterus. The absorbents on the right side were seen covered with filaments of nerves. The aortic plexus and the hypogastric nerves and plexuses presented the same appearance as in the last dissection, and were larger than in the uterus of six months. Branches were seen proceeding from the anterior part of each hypogastric plexus to the corresponding ureter, the uterine artery and vein, and to the neck and body of the uterus, as above described. The trunk of each hypogastric nerve was prolonged through the middle of the plexus to the ganglion at the cervix, into which the second, third and fourth sacral nerves sent branches. Between the posterior part of each hypogastric plexus and the sacral nerves, there were communicating branches which did not enter the ganglion. The ganglion on each side was situated close to the neck of the uterus, a little behind the ureter near its termination in the bladder. The ganglia at the cervix appeared to be more expanded than in the former dissections, and a great communication was formed between the numerous small soft nerves passing from their inner surface and the great plexuses on the body of the uterus. From each ganglion branches spread out under the peritoneum, both of the anterior and posterior surfaces of the uterus, and many were seen plunging into the muscular coat at the cervix, and others passing up with the bloodvessels to the fundus uteri. The ureters were also observed to be surrounded with nerves from the ganglia, and many branches passed from them to the sides of the bladder, vagina and rectum. The upper borders of the great plexuses on the body of the uterus behind, were traced to a considerable depth passing in the cellular membrane between the layers of the muscular coat of the fundus uteri, which I did not perceive in the last dissection. Several trunks of absorbents on the sides of the body of the uterus were supplied with nervous filaments. The most striking circumstance observed in this dissection, was the direct continuity at numerous points between the branches proceeding from the hypogastric plexuses and ganglia at the cervix, and the branches of the great transverse plexuses on the body of the uterus behind. In the previous examination of the uterus, I had never observed fila-

ments of nerves ramifying upon the coats of the absorbents. I have since seen this in the gravid uterus of the cow, and in the human spermatic cord, at a short distance from the testicle. Analogy led me to suspect, that many branches of nerves would also be found on examination to accompany the veins of the spermatic cord and to ramify upon their coats. Mr. James Dunn, at St. George's Hospital, undertook, at my request, to ascertain if this were the fact, and in July last he made three preparations in which the nerves are seen covering the veins as they pass out of the testicle. It appears from these, that a much greater number of nerves accompany the veins than the artery in the spermatic cord. The nerves in these preparations form a great plexus around the veins, and are traced into the testicle."

4. *Nerves of the Gravid Uterus in the Fourth Month.*

"In October, 1810, I finished the dissection of a gravid uterus of four months, all the arteries and veins on the right side of which are completely filled with red and blue injection, and the whole nervous system of the uterus more perfectly displayed than in any of the preparations already described. The uterus was removed from the body of a woman, who died in St. George's Hospital, from an external injury, and the fœtus and its appendages were expelled a few hours before death. The nerves were traced while the uterus was covered with rectified spirit. An artery of considerable size filled with injection, is seen accompanying the right hypogastric nerve, and passing along with its branches through the hypogastric plexus to the ganglion at the cervix. In this course, the artery is seen ramifying upon the trunk of the hypogastric nerve, and the most minute branches of the hypogastric plexus. The sacral nerves passing into the ganglion, are also accompanied with an artery, which is likewise injected, and which passes through the centre of the ganglion. These nerves are a little smaller than in the uteri of nine months. The ganglion is thick, large and distinct, of an oblong form, about three-quarters of an inch in diameter, and consisting of grey and white matter. From its inferior border, three large bundles or masses of nervous fibres are sent off, which present an appearance resembling the pes anserinus of the portio dura. The posterior of these subdivides into numerous small branches, accompanied with arteries, which supply the rectum and back part of the vagina. The middle of these great nerves proceeding from the ganglion, likewise accompanied with arteries, ramifies upon the side of the vagina; and the anterior upon the bladder around the entrance of the ureter.

From the hypogastric plexus, before it enters the ganglion, and from the inner surface of the ganglion, numerous large and small branches of nerves are given off to the neck of the uterus, some of which accompany the blood-vessels toward the fundus, and others spread out under the peritoneum. All these are likewise accompanied by injected arteries. From the inner border of the ganglion, a broad nervous band is sent off, which passes on the outside of the ureter, and another on the inside, which unite and completely surround the ureter. From these united nervous bands, many large branches are sent to the back part of the bladder and into the anterior part of the cervix uteri. The course of these branches can easily be traced by their injected arteries. On the lower and anterior part of the cervix uteri, over the mesial line, there is a thick membranous expansion, into which these nerves enter from both hypogastric plexuses and ganglia. From the sides and upper part of the membrane, there are given off innumerable filaments, apparently nervous, which unite on the sides of the uterus with the nerves accompanying the blood-vessels, and with the spermatic nerves, and some of which pass out with the round ligaments. These are likewise accompanied with minute arteries, as all the nerves are on the right side of the uterus, entering the ganglion, and passing out from it.

The nerves and ganglion on the left side, correspond in appearance with

those of the right, and the great number of the spermatic nerves on both sides accompany the spermatic veins.

I had never before seen the arteries of the nerves of the uterus injected, or suspected that they had concomitant arteries which enlarged along with them during pregnancy."

5. *Nerves of the Uterus ten days after Delivery.*

"On the 27th of June, 1840, I examined the uterus of a woman who died suddenly on the tenth day after delivery. The hypogastric plexuses, and those both on the anterior and posterior surfaces of the body of the uterus, were very much reduced in size from what they were observed to be in the uteri of six and nine months. This observation made it certain, that the nerves of the uterus after having performed their proper function during gestation and in labour, gradually return to the condition in which they are found in the unimpregnated uterus."

Two dissections are narrated. We introduce the second.

Mr. James Dunn has nearly completed a dissection of the nerves of a uterus, which was recently obtained by me at St. George's Hospital, from the body of a young woman, who had never been pregnant. The aorta, vena cava, and all the arteries and veins, connected with the uterus, have been injected. The uterus is of the ordinary size. The spermatic nerves on both sides are given off mainly by the renal plexus. The greater number of these nerves are distributed upon the veins, and not upon the spermatic arteries. Branches are sent to the fallopian tubes and ovaria, and others pass down to the uterus, and can be distinctly traced into the great transverse plexuses, under the peritoneum behind.

The aortic plexus, hypogastric nerves and plexuses are considerably larger than in the last dissection. The arteries of these nerves and plexuses have been successfully injected, and it is evident that they are much smaller, than the arteries in the gravid uterus at the fourth month. The ganglia are large and distinct, and the branches sent off to the bladder, vagina and rectum, are all accompanied by arteries filled with injection. Numerous branches of nerves are seen accompanying the uterine blood-vessels to the fundus, and the plexuses on the body of the uterus, before and behind, are continuous with the branches proceeding from the hypogastric plexuses, and the ganglia at the cervix.

These dissections prove that the human unimpregnated uterus possesses a great system of nerves, which enlarges with the coats, blood-vessels, and absorbents during pregnancy, and which returns after parturition to its original condition before conception took place. It is chiefly by the influence of these nerves, that the uterus performs the varied functions of menstruation, conception and parturition, and it is solely by their means, that the whole fabric of the nervous system sympathises with the different morbid affections of the uterus. If these nerves of the uterus could not be demonstrated to exist, its physiology and pathology would be completely inexplicable.

6. *Nerves of the Uterus in the Mare.*

There are two dense oblong ganglia in the mare, situated on the sides of the aorta a few lines above its bifurcation. The two cords of the great sympathetic nerve terminate in the superior extremities of these aortic ganglia, which are connected together by two branches of nerves, which pass across the front of the aorta from their inner borders. Each ganglion sends off a branch from its outer border, to join the spermatic nerves. From the inferior ends of these ganglia are given off the hypogastric nerves, and the nerves which supply the cornua of the uterus.

The *left hypogastric nerve* proceeds downward from the left aortic ganglion between the folds of the broad ligament, by the side of the uterus to the cervix,

where it terminates in the hypogastric plexus. This nerve is at first much larger than the nerve of the cornu, and appears to be a continuation of the ganglion, and in its course it has two distinct ganglionic enlargements. The first of these is three inches from the aortic ganglion, and the second more than two inches lower down, and from both of these several large and small branches are sent off to unite with the nerve of the left cornu, and with the plexus of nerves accompanying the trunk of the uterine artery.

The *nerve of the left cornu*, soon after being given off by the aortic ganglion, divides into two branches, which again unite at a distance of three inches from the ganglion and form one nerve. This nerve suddenly expands into a firm round elongated ganglion, which resembles the bulbous root of a plant. On leaving this ganglion the nerve is enlarged to more than double the size it is on entering the ganglion, and it proceeds without any considerable diminution for four inches, to the uterine artery, with the branches of which it ramifies upon the upper part of the body of the uterus, and the whole cornu. Numerous small filaments are given off from the nerve in its course with the artery to the peritoneum and muscular coat, and it forms a great plexus of nerves, which not only surrounds the branches of the artery, but the veins and absorbents. On the nerve of the right cornu of the uterus, a round elongated ganglion is also formed, about the same distance from its origin, and the nerve passes out of the ganglion much increased in size, and is distributed to the body of the uterus and cornu, as on the left side.

From each hypogastric plexus there are sent off to the body and neck of the uterus many large nerves, which have a very peculiar serpentine or undulated appearance. They proceed between the folds of the broad ligaments to the anterior and posterior surfaces of the uterus, and after sending numerous branches to the peritoneum, they penetrate the muscular coat, and can easily be traced ramifying upon it on to the cornua. The greater number of these nerves are found on the anterior surface of the uterus, where they form an immense plexus in the muscular coat, and where they can be seen as they cross the arteries, anastomosing with the branches of the nerves of the cornua. At the cervix, these nerves can easily be traced through the muscular coat to the lining membrane of the uterus, under which they form a beautiful nervous web. These great nerves in the uterus of the mare, resemble in their origin and distribution, the ganglionic plexuses in the human uterus above described, which I regard as the muscular nerves of the organ. The aortic ganglia in the mare correspond with the aortic plexus in the human subject, and the nerves of the cornua with the branches of the hypogastric plexuses which pass down between the uterus and ureters, to the trunks of the uterine artery and vein, with the branches of which they ramify on the body and fundus of the uterus.

Dr. Lee has examined with the microscope the plexuses on the body of the human uterus, and the spermatic and hypogastric nerves, and has been unable to discover any appreciable difference between them.

Two plates accompany and illustrate the description. The first represents the nerves of the uterus in the sixth month of pregnancy—the second, those nerves in the ninth month. Both are views of the posterior surface of the uterus.

We have witnessed the preparations, which are faithfully delineated. Without offering a confident opinion on the nature of what Dr. Lee considers nerves, we can, at all events, do justice, and we ought to do it, to the patient manner in which the investigation has been conducted, and the fidelity with which what has been found has been described. Dr. Lee is still pursuing the inquiry, and we may look forward to its ultimate complete solution at his hands. It redounds infinitely to his honour.

SPIRIT OF THE FOREIGN PERIODICALS.

ON THE ALTERATIONS OF THE BLOOD IN DIFFERENT DISEASES.

In the last number of the *Medico-Chirurgical Review*, page 196, will be found a lengthened abstract of the important Memoir of MM. Andral and Gannaret, on the changes of the blood—more especially as regard the relative quantities of its fibrine, globules, and serum—in different classes of disease. We then pointed out the importance of such enquiries, mentioned some of the useful inferences that may be deduced from the results already obtained, and suggested that, in all probability, the most valuable discoveries in practical medicine will be made by following out a rational system of Humoral Pathology.

We are glad to find that some of the ablest men in France are beginning to entertain similar views to those which we have uniformly advocated in the pages of this Journal, and are giving their powerful aid in disseminating more just views respecting the necessity of attending to the conditions of the fluids in various classes of diseases. The names and high authority of Andral and of Rayer cannot fail to carry great weight with medical men of every country, and more especially with their own compatriots.*

In a recent number of the French Journal *Esculape*, we find a memoir by a M. Monneret, entitled "Remarks on the Alterations of the Blood," of which we propose to give an analysis. He commences with an allusion to the decay of the Broussaisian doctrine.

"For some time past there has been a decided re-action against the doctrine of Broussais, and the humoral medicine of the ancient physicians is no longer treated with that contempt and air of superiority which have characterised many modern pathologists.

We have discovered, though rather late, that we have been following in an erroneous path, by adopting with too much confidence the medical legislation of the Val-de-Grace; and at length many have been and are retracing their steps. We are not, however, about to return to all the vagaries of the old school, but will only assent to established truths, which actual observation may verify at any time.

Such is the direction which medical enquiries are taking at the present time.

Instead of limiting our attention to the lesions of the solids exclusively, without tracing them up to the physiological cause on which they depend, medical men are now engaged in studying the alterations of the blood and the other fluids of the body, and following out a method of enquiry which cannot fail of leading to very important results.

The recent memoir of MM. Andral and Gannaret has shewn what may be done, and has already contributed to throw considerable light on the pathology of many diseases."

M. Monneret very justly remarks that, until within the last few years, medical men have occupied themselves too much with the minute chemical analysis of the blood, and have too often overlooked, in consequence, the more obvious and more important changes in the relative proportions of its principal constituents. However useful the elaborate researches of Lecanu and other distinguished

* We may refer our readers to some remarks on the *humoral* pathology, so to speak, of rheumatic and gouty affections, in the last number of this *Review*: vide art. Bouillaud on Articular Rheumatism.—(Rev.)

chemists may be, we must remember that, for practical purposes at least, the examination of all the fluids of a living body should be conducted in a physiological rather than in a merely chemical manner.

Before alluding to the changes which the blood exhibits in different diseases, let us dwell for a moment on the normal constitution of this vital fluid.

When blood is allowed to rest, it separates into two parts, the clot and the serum—the former consisting of the red globules and the fibrine, and the latter of water, which holds in solution albumen and various saline matters.

The fibrine of the coagulum forms a meshwork, in the interstices of which are entangled or enclosed the numerous globules to which the blood owes its color, and also a quantity of serosity similar to that in which it, the coagulum, floats. The principal salts which along with albumen are dissolved in the serum, or watery portion of the blood, are the muriates of potassa and soda, the sulphate of potassa, the carbonate of soda, and the phosphates of soda and lime. The globules seem to consist of albumen united to a colouring matter, to which the name of *hematosine* has been given.

The relative proportion of these different constituents in healthy blood may be stated thus:—

1. Fibrine	..	..	..	..	..	3 parts	} The Clot.
2. Hæmatosine	..	..	..	..	..	2 "	
3. Solid albumen of the globules	..	..	..	..	125	"	
4. Liquid and dissolved albumen	..	..	..	..	68	"	} The Serum.
5. Saline matters	..	..	..	..	12	"	
6. Water	..	..	..	..	790	"	
<hr/>							
1,000 parts.							

The relative proportions of these constituents of the blood are found to vary much in different classes of diseases; and these variations are so uniform and constant, that we are completely warranted in asserting that there is a strict relation between them and the nature of the morbid process that is going on in the system. For example, that a most characteristic feature of all the genuine phlegmasiæ is a superabundance of the fibrine of the coagulum, has been long known, and is most clearly proved by the researches of MM. Andral and Gannaret.

It appears also, from these researches, that in the genuine fevers, such as typhus, the various exanthemata, and certain vague or ill-marked pyrexia, the quantity of the fibrine is not increased, but is either stationary or somewhat below the normal standard. Again, chlorosis is an example where the proportion of the red globules is sensibly diminished; and in the *morbus Brightii* the chief morbid change seems to consist in a diminution of the quantity of the albumen held in solution by the serum.

These facts have indeed been long known to most practical men, who have not allowed their minds to be fettered by the exclusive doctrines of the solidists; yet still much credit is due to MM. Andral and Gannaret for the statistical illustrations which they have adduced in support of them. One, however, of the most unexpected of all the results of their labours has been to shew that in *phtthisis*, at least in certain stages of it, there is almost always an excess in the proportion of the fibrine of the blood. M. Monneret says on this subject:—

"When the tubercles are still crude, the increase of the fibrine is scarcely appreciable; when they begin to soften, it is more marked; and at length, when vomicae are formed, the proportions of this element sometimes rises to six parts in the thousand.

The red globules, on the other hand, follow the very opposite direction; their period of decrease is progressive from the commencement to the close of the

disease: the difference often exceeds twenty parts. The disease is therefore represented in its complexion by the increase of the fibrine on the one hand, and by the diminution of the albuminous globules on the other. To the one of these alterations corresponds the complication, and to the other the pathological condition of phthisis."

Such is a very important discovery of modern humoral pathology—provided it be confirmed by the researches of others. However this may be in reference to the state of the blood in phthisis, the statements of MM. Andral and Gannaret are, we believe, entitled to implicit confidence on the important question of the pathology of fevers.

We cannot have a more convincing proof of the error of Broussais and his disciples, in regarding typhus and other fevers as of the nature of the genuine phlegmasiæ, than what is afforded by the researches of our authors. For while in the latter classes of diseases, the proportion of the fibrine of the blood is invariably increased, in the former it is never so, and in not a few cases is even sensibly diminished; whereas the proportion of the red globules is at the same time either unaffected, or somewhat higher than it is in health.

The following is a summary of the results obtained by MM. Andral and Gannaret's examination of the blood in different forms of fevers.

In *simple continued fevers*, no increase in the quantity of the fibrine is observed either during the precursory stage, or when the disease is fairly formed: in several cases it is sensibly diminished. On the contrary, the proportion of the red globules is almost always increased; this increase being sometimes very considerable.

In *typhoid fevers* also, although there is a decided inflammatory complication of the gastric and intestinal mucous membrane and glands, we never observe any increase in the proportion of the fibrine at any stage of their existence—a demonstrative proof, if others were wanting, that these fevers cannot be justly regarded as phlegmasiæ, and therefore that the terms *gastro-enterite*, *mesentero-enterite*, &c. are most fallacious and improper.

(We wonder how our friend M. Bouillaud will reconcile these facts with his practice of bleeding *coup sur coup*: doubtless, he is too adroit a debater not to be ready with an answer; for never did the poet's line

— c'en though vanquished, he could argue still,

apply to any one more truly than to the physician of La Charité.—*Rev.*)

In *eruptive fevers*, the genuine exanthemata, the proportion of the fibrine in the blood is almost invariably below the normal standard. That of the red globules is occasionally, as in many cases of scarlatina and rubeola, considerably increased. It appears therefore that the existence of a cutaneous phlegmasia is not in itself sufficient to induce an inflammatory condition of the blood, or that its influence is counteracted and neutralised, so to speak, by a specific principle on which the exanthemata depend.

In *intermittent fevers*, the blood does not seem to undergo any appreciable alteration. Does not this prove that this class of diseases results from a general disturbance (ébranlement) of the organism, and that the nervous system acts an important part in their production?

Another important result of MM. Andral and Gannaret's researches is, that, in cerebral congestions and hæmorrhages, the condition of the blood is very nearly the same as it is in simple fevers.

In not one of the fifteen cases of apoplexy, examined by these gentlemen, was the proportion of the fibrine at all increased, and in some of them it was diminished; whereas that of the red globules was found to be above the normal standard in every instance without exception. "This double alteration, which is especially remarkable at the commencement of the disease, is characteristic. It proves that the less fibrine there is in the blood, the less coherent it

becomes, and therefore that cerebral hæmorrhage is dependent rather upon an essential modification in the elements of the circulating fluid, than upon any lesion of the solids.

Still there is nothing absolute in this conclusion; for in numerous cases it happens that certain pathological conditions of the solid parts induce apoplexy, and then the blood does not exhibit the abnormal conditions which we have mentioned."

So much for the humoral characters of inflammatory, febrile, and some congestive and hæmorrhagic diseases. We come now to a very opposite class of maladies—those in which there is a striking diminution in the proportion of the red globules contained in the blood. In chlorosis, especially, and indeed in almost all cachectic states of the system, by whatever cause induced, this is remarkably the case.

In a case of diabetes the proportion was found to have fallen from 127, the standard of health, to 86; in a case of dropsy, connected with disease of the heart, to 68; and in various cases of chlorosis to 77, 70, 60, 50, 46, and in one instance to 38. In no other disease has the relative quantity of the red globules been found so low as in chlorosis. The gradual increase in this quantity during the administration of feruginous preparations was repeatedly ascertained. How is this effect of steel to be explained? We must confess that we are unable to say: unless, indeed, by attributing it to the improvement of the general system, which is then enabled to bring back the process of sanguification to a healthy state.

With respect to the last division of diseases according to the humoral nosology—those in which the characteristic feature is an alteration in the proportion of the albumen dissolved in the serum—we have no new facts to mention. It is chiefly in Bright's disease of the kidneys that this change is most remarkable; for it would seem that the larger the quantity of albumen that exists in the urine, the less will be found in the serum of the blood. As yet, no experiments have been made as to the state of the serum in other diseases, in which this morbid condition of the urine is known to exist.—*L'Esculape*.

M. BEAU ON AUSCULTATION.

In our last number we gave an abstract of M. Beau's first memoir, and directed our readers' special attention to the novel and very ingenious views which he has propounded. It will be remembered that his leading position is, that the respiratory murmur of health, as well as the various modifications which it presents in a state of disease, are owing to the retrograde resonance of what he calls the *glottic sound* in the bronchi and cells of the lungs, and not (as Laennec and all other auscultators have supposed) to the friction of the air on the parietes of these tubes and cells. According to this view, the glottis, and not the lung, is the proper seat of the vesicular murmur.

He draws what he considers a powerful argument in favour of his opinions, from the admitted fact that, in certain cases, this vesicular murmur is entirely inaudible, although the respiration continues to be regularly performed.

"This difficulty had occurred to the mind of Laennec himself, in reference to the *glottic* crowing or whistling sound of hooping-cough. The following passage from his great work may be here quoted:—"The whistling and prolonged inspiration, which constitutes the pathognomic character of this disease, appears to take place altogether in the larynx and trachea. We cannot hear either the sound of the pulmonary respiration, nor the bronchial respiratory sound, even in those parts of the lungs which, a few moments before, and after the hoop or kink, gave out a distinct puerile murmur. This *phenomenon* can

only be explained in one of two ways;—*either* by supposing that there is a momentary sanguineous or serous congestion and consequent swelling of the mucous membrane of the bronchi, sufficient to obstruct these canals; *or*, that there is a spasmodic contraction of the bronchi, which would produce the same effect." P. 188, ed. 1826.

Now Laennec would never have hazarded such a conjecture, had he observed this *phenomenon* (as he calls it) in a case of organic, and not merely in one of spasmodic, contraction of the larynx. What, however, had escaped his notice, has been distinctly alluded to by Dr. Stokes of Dublin, and by M. Barth. The former of these gentlemen says, in his Treatise on the Diseases of the Chest;—"In the diseases of the larynx, the vesicular murmur becomes feeble in proportion to the degree of the obstruction. It is observed in some cases to be weak, or entirely absent, over the whole chest."

The latter (vide Archives de Medecine, p. 227, 1838,) thus expresses himself:—"The vesicular respiratory murmur may be diminished, or altogether abolished, on both sides of the chest by any lesion which is capable of contracting the calibre of the upper part of the air passages."

Neither of these propositions is strictly correct. For, in truth, we frequently meet with cases of contraction of the laryngo-tracheal tube, in which the respiratory murmur is not only audible, but even louder than in health: and the reason of this is, that the passage of the air being somewhat impeded at the obstructed point gives rise to an exaggerated blowing sound. It is only when the disproportion between the volume of air and the laryngo-tracheal obstruction is more considerable, that this sound loses its normal blowing character, and acquires a snoring or whistling tone. Under such circumstances the pulmonary resonance undergoes the same change; and hence the usual respiratory murmur is no longer audible.

This exaggeration on the one hand, and absence on the other, of the respiratory murmur in the lungs are sometimes observed, alternating with each other, in the same person. In a case of syphilitic swelling of the larynx, under the care of Professor Fouquier, the laryngeal sound was observed to vary according to the rapidity of inspiration; for it had a blowing character, when the air passed slowly through the contracted point, but immediately acquired a metallic-like snoring character, when the breathing was quickened. On auscultating the chest, these two different sounds could be distinctly observed to alternate with each other.

The same thing was noticed in the case of a man, who, having undergone the operation of tracheotomy for a contraction of the larynx, was obliged to breathe through a canula. In him there was heard a vesicular murmur, only in an exaggerated degree, because the orifice of the canula being rather small gave rise to a strong blowing sound; but when the canula was obstructed, and he was obliged to breathe by the mouth, a loud snoring sound was produced at the contracted point, and this snoring sound was reverberated backwards through the entire chest, overpowering and taking the place of the normal vesicular murmur.

These alternations of absence and of exaggeration of the normal respiratory murmur are frequently observed in hysterical patients affected with spasm of the glottis.

According as the glottis happens to be more or less contracted, there is a whistling or only an exaggerated blowing sound audible; and it will then be found that the lungs give out on auscultation at one time a whistling or sibilant sound which completely hides the ordinary vesicular murmur, and at another time an exaggerated blowing sound, to which the epithet *puerile* has been given by most writers.

To explain these phenomena according to the theory of Laennec, we must suppose that in the cases of considerable contraction of the larynx, where the

vesicular murmur is replaced by an abnormal sound, the air does not penetrate into the cells of the lungs; and on the contrary that in cases of less considerable contraction, when the blowing sound is merely exaggerated, or, in other words, has become puerile, the air penetrates in a superabundant quantity;—an explanation which cannot surely be maintained by any unprejudiced reasoner.

M. Beau, after some further remarks on this part of his subject, proceeds to examine the subject of the various *rales* which have been described by auscultators. These sounds, he impresses on his readers, are very different from the abnormal conditions of the respiratory murmur, and of the voice, to which we have hitherto alluded; for they are solely and altogether the results of morbid changes in the bronchial tubes and pulmonary cells themselves, and not of the retrograde resonance of any glottic sounds. He divides them into two classes—the *vibratory*, or *dry*; viz. those which consist in a more or less prolonged vibration of the air in consequence of an obstruction in some point of the air passages, and the *bullar*, or *moist*, viz. those arising from the rupture of bullæ, of larger or smaller dimensions in different cases, produced by the air traversing a fluid obstacle in these tubes.

The Vibratory Rales.—The most remarkable of these are well known as the sibilant, the sonorous or grave, and the snoring *rales* of Laennec and other authors.

..... “The existence of these different kinds of vibratory rale is in general very transitory. A single expectoration or act of coughing is often sufficient either to cause them to cease altogether, or to change them into a form different from that which was present at first; thus the sibilant *rale* becomes sonorous, snoring, or blowing; or perhaps one of these last *rales* acquires the sibilant character, soon to be again transformed.”..... “The various vibratory rales may be of the same duration as the corresponding respiratory movements, or they may be shorter than these. The same rale may be heard both during inspiration and during expiration: or it may be present during one act and absent during the other. In the latter case, it is during the expiratory movement that the rale is most frequently heard—hence the number or variety of the expiratory is greater than that of the inspiratory rales.

To explain these last facts, we are obliged to admit that the obstacle in the bronchi, which sets the air in vibration, does not necessarily exist during both acts of respiration; and, as we have just stated, that the expiratory rales are in general more frequent than the inspiratory. It follows that the air meets with more impediments in its escape from, than in its entrance into, the bronchi.

The vibratory *rales* may have their seat in every point of the bronchial tree; but the different forms of these *rales* usually affect tubes of a different diameter. Thus the *sibilant rale*, conveying the sensation of an attenuated stream of air, is most frequently heard in the small bronchi; the grave or *sonorous rale* in bronchi of a middling size; and the *snoring* or loud blowing rale in the larger bronchi.”

..... M. Beau attributes the origin of the vibratory *rales* in almost all cases to an obstruction of some of the bronchial tubes from the presence of viscid mucus, and very rarely to any actual swelling of their lining membrane. His chief reason for this opinion is, that “these rales seldom continue for any length of time the same, but are continually changing from one tone to another, from the sibilant to the sonorous or the snoring, and back again from the latter to the former. Now we get rid of this difficulty, if we suppose that the operating cause is the presence of viscid mucus in the air-passages; for, as this mucus may be displaced by any effort of the breathing, the character of the existing *rale* will depend chiefly upon the size of the tube, or tubes, which may

be partially obstructed. In what other manner can we explain the occurrence of *rales*, which are audible during one only of the acts of breathing, and not during the other? The intermittent obstacle, which gives rise to them, cannot well be supposed to be a swelling of the lining membrane of the bronchi; on the contrary, how easily explicable is the phenomenon on the supposition that some of these air-rubes are partially obstructed by a portion of mucus, which having the form of a *languette*, and its edge being raised sometimes towards the larynx, and at other times towards the pulmonary cells, may be most aptly compared to a half-opened valve, which throws the air into vibrations either during inspiration or during expiration."

M. Beau accounts for the greater frequency of the expiratory than of the inspiratory *rales* on the ground that the air must encounter a greater degree of obstruction in its exit from, than in its entrance into, the small bronchi and the pulmonary cells, from the circumstance of the whole tissue of the lungs being more or less contracted during the act of expiration by the descent of the ribs and the rising of the diaphragm.

In consequence of this compression, which necessarily affects both the blood-vessels and the air-tubes of the lungs, the interval between the loose edge of the mucous obstacle and the corresponding wall of the tube must be more or less diminished, and the intensity of the *rale*, produced by the passage of the air, will therefore be proportionately increased.

As to the cause of the crepitant *rale*—the pathognomonic auscultatory sign of pneumonia—M. Beau suggests a novel interpretation:—

..... "It is generally supposed that this sound is caused by the rupture of extremely small bubbles of mucus in the pulmonary vesicles. But if we consider that the sound is not at all modified after a fit of coughing, and also that it is distinctly perceptible in many cases of pneumonia before any expectoration takes place, it may be fairly asked whether it may not rather depend on the friction of the pulmonary vesicles, which, like the pleura, pericardium, and the synovial membranes, are probably somewhat dried (*dessechées*) by the existing inflammatory action."

(The cases are certainly not parallel; these tissues being serous, whereas the surface, at least of the vesicles, is of a mucous character.—*Rev.*)

"Besides, a sound, exactly similar to the crepitant *rale* of pneumonia, is readily imitated by blowing air into the lungs of a sheep, which have lost part of their moisture. I should not hesitate, adds M. Beau, to adopt this explanation of the crepitant *rale*, if it was once proved to me that inflammation has the effect of drying the pulmonary vesicles."

After commenting at considerable length on the various other *rales*, M. Beau proceeds to treat of the auscultatory phenomena which are accompanied with a *metallic sonority*:—He says,

"Laennec was the first who discovered that when either a large cavern in the lungs, or the cavity of either pleura, contains both gaseous and liquid contents, we not unfrequently hear sounds which are altogether similar to those which a glass or metal vessel gives out when struck.

We cease to wonder at such an occurrence, when we find that it is not peculiar to the chest; metallic sounds being often heard in the cavity of the stomach, not only when the ear is directly applied to the abdomen, but when we listen at a considerable distance from it. We must confess that we do not sufficiently understand the exact conditions which are necessary for the production of this phenomenon, even in the case of inorganic vessels, whether of wood or of metal or glass. This, however, we know, that unless the air within them is thrown into vibration, they emit no sound; and so it is with abnormal cavities within the thorax which gives out any metallic resonance:—it is never heard, unless a vibration takes place in their interior.

Now such a vibration may arise from several causes:—thus, 1. It is pro-

duced when a patient, in whom such an abnormal cavity exists, is briskly shaken by the shoulders, and the liquid contents of the cavity are made to strike against its parietes; the sound produced by this succussion is sometimes very loud and may be heard at a considerable distance; it is *the metallic sound of succussion*.—2. the voice, the act of coughing, &c. may occasion in the cavity a resonance quite similar to that heard by speaking in a well or in a large deep vessel; this is *the metallic echo*.—3. The resonance of the glottic souffle may give rise, by the vibration of the inspired air, to a sound similar to that produced by blowing into a large empty vessel; this is *the amphoro-metallic sound*.—4. Lastly, the mere rupture of large bullæ of air in the abnormal cavity may produce a sufficient vibration to cause a short and irregular metallic sound; this is *the bullar tinkling*.

It is therefore apparent that metallic sonorousness is not so much a special abnormal sound, as a peculiar tone (timbre) which the normal or abnormal respiratory sounds acquire under certain circumstances. Thus the *metallic echo*, and the *amphoro-metallic* sound, are only peculiar resonances of the voice and of the glottic souffle; while the *bullar tinkling* is nothing but a rale produced by the rupture of large air-vesicles or bullæ, acquiring a metallic resonance in consequence of the property of the cavity wherein it takes place.”—*Archives Gen. de Medecine, Août.*

ON THE ELECTRICAL ACTIONS IN LIVING BODIES.

Dr. Riche, a physician at Obernay, is the author of the following remarks, on this curious and most interesting department of physiological science. He commences his paper with laying down these positions:—

1. “Every molecular action, whatever be its cause, produces a state of electrical tension.

2. Every time that the electrical tension is destroyed by neutralization, the recombination of electrical states, &c. there is a production of light (phosphorescence) with or without appreciable heat; and *vice versa*.

3. In bodies which are good conductors, the neutralization is instantaneous and consequently invariable; whereas, in those which are bad conductors, the neutralization takes place more slowly, and becomes sensible to our senses and our instruments.

4. The electrical tension of a body is the sum of the electrical tensions of its molecules.

5. Every time that an electrical current encounters an obstacle in its transmission through any part of the body, there is a production of heat. A calorific current produces, in the same circumstances, an electrical current. Light develops both the one and the other in different degrees.

6. An alternating series of molecules, which are more or less perfect conductors of heat and electricity, produces, by their mere position, an electrical or calorific current.

7. Lastly, electricity, caloric, and light, seem to be only different modes of manifestation of molecular movements.”

* It is physically possible that a drop may fall from the top of the cavity upon the fluid below, at the moment when the patient lifts himself up from the horizontal position, and that its falling may give rise to a metallic sound; but then it is difficult to conceive that a sufficient number of drops should be falling, one successively after the other, to enable us to explain the circumstance of this auscultatory phenomenon being heard for a considerable length of time.

Dr. Riche proceeds to develop with great ingenuity his views of the manifold operations of living bodies, such as the functions of muscular contraction, of animal heat, of secretion, &c. all of which he regards as so many manifestations and results of electrical agency. In short, he regards the whole living organism as a wonderful electrical machine, obeying the general laws which pervade the universe, but governed and controlled in all its changes by a higher immaterial principle, the nature of which is beyond our ken.

..... "Keeping in view," says he, "the above preliminary positions, we may well ask, what bodies in nature unite in themselves more of the conditions necessary to produce the electrical tension and neutralisation than those which are living and organised?"

A vesicular, cellular, and vascular organisation; fluids charged with saline, acid or alkaline principles, and holding in combination phosphorus, sulphur and certain metals; an incessant composition and decomposition from the first moments of life to the period of death; a circulation of fluids through vessels of every nature and in various directions; a consumption of a large quantity of oxygen, the most favourable condition for the development of electrical action; lastly, a nervous system diffused or centralised, isolated, transmitting with the rapidity of lightning impressions from without inwards, and reactions from within outwards. Is not every thing combined in such a system for developing a maximum of molecular action?

The torpedo, and other species of electrical fish, display the effects of this action most vividly in consequence of the peculiar apparatus with which they are provided. If it be said that the peculiarity of these organs proves that they are an exception in the animal kingdom, it may be justly answered, that these organs are merely electric condensers; that the source of their electricity is not in them, but that this is transmitted by the large and numerous nerves of the brain; for we know that any mechanical irritation applied to the brain or its nerves augments the intensity and frequency of the shocks, and that the division of these nerves suspends their power altogether. Do we require fresh proofs?

By experiments on frogs, it has been clearly shewn that there are in these animals electrical currents, which are independent of all external and foreign excitement or stimulus.

These currents produce muscular contractions, when they proceed from the nervous trunks to their ramifications, and sensations when they proceed in the opposite directions from the ramifications to the trunks.

Again, cats, horses, dogs, and man himself, often exhibit visible signs of electricity from exposure to the sun, or in consequence of friction of the surface or after muscular exertion: even electrical shocks, attended with sparks, have been occasionally given out by certain persons.

An electrometer exhibits signs of electricity, when it is brought in relation with a person placed on an *isolair*. The mere approach of the finger will sometimes attract a needle which is finely suspended.

Lastly, in the operation of acupuncture, signs of an electrical condition have been distinctly perceived.

Now, what are the conditions which produce such sensible electrical effects in living bodies?

The blood is formed of vesicular globules, inclosing a dense coloured liquid, and floating in a liquid which is less dense and which combines all the conditions of electrical conductivity.

Through the vesicular parietes of these globules, there is incessantly going on an alternate endosmosis and exosmosis;—actions which are always accompanied, it is known, with electrical currents: the blood, therefore, is electrical by its very constitution.

Moreover the blood, being subjected to a continual circulation, must exercise a certain amount of friction on the walls of the vessels which contain it—a new source of electrical tension, which is then transmitted to the nervous twigs distributed on their outer coats.

Again, the blood traverses the lungs, gets rid of various excrementitious products, and is electrified anew by this very process of elimination: it receives the influence of the external air with all its conditions of vitality—that is to say, of the oxygenated luminous air, possessing an electrical tension which is variable according to the bodies dissolved or suspended in it. The heat developed by respiration, circulation, and muscular contraction, tends to increase the electrical tension of the blood, by the movements thereby incessantly communicated to all its molecules.

This heat itself has its origin in the innumerable electrical discharges which are taking place every where and at every moment, and in the obstacles which the electrical currents meet with in passing from one molecule to another, from one liquid to another, and through the numerous cellules, membranes, and the parietes of vascular tubes.

To these various sources of electrical generation we may add the functions of digestion, of secretion, and excretion: and even then we shall have but a most imperfect idea of the constant decomposition and recomposition which are going on at all points of the living frame."

..... "Will it be permitted us to regard the ganglionic nerves, arranged in inextricable meshes around the arterial trunks and ramifications, as conductors which transmit to the nervous centres the electricity developed in the parenchymatous structure of the viscera? According to our views, this electricity, accumulated and concentrated in the nervous centres, is destined to the production of muscular contraction, as well as to the maintenance of an uniform animal temperature, and to the regulation of the acts of organic composition and decomposition.

We admit, with Professor Duges of Montpellier, that muscular contraction is the result of a series of electrical discharges, which rapidly succeed each other on the contracted muscles. The heat produced by exercise, and the fatigue which follows upon it, seem to confirm this view of the matter; for the heat is the result of the neutralization of electricity, and the fatigue is the result of nervous exhaustion."

Dr. Riche does not wish his readers to suppose that he regards nervous and electrical action to be strictly identical, or that the one term can be appropriately substituted for the other. Although there are numerous relations and points of resemblance between them, the former is in some mysterious manner modified by the living principle, so that we can never hope to imitate its phenomena by any artificial contrivance, however ingenious and complicated. Having again expressed his opinion that every muscular effort is the result of repeated electrical discharges in the muscles called into play—an opinion which is strongly confirmed by the circumstance, that in electrical fish the body of the animal is always observed to be made tense and contracted before it gives a shock—Dr. Riche suggests an explanation of various morbid states of the nervous system on the doctrines now propounded.

..... "The derangements of innervation may be considered—1, as the result of an insufficient or of an excessive electrical tension; 2, as the effect of an impediment to the transmission of electrical currents;—3, as dependent upon a feebleness of the will or on a depraved instinct, or on both together. (A well disciplined moral education, exercising, directing, and controlling the will, giving it the mastery over the body, and over each of the organs in particular, and keeping the instinct within limits compatible with the moral and physical welfare of the individual, is the best preservative against the last-named cause of nervous diseases.)"

Our author seems to be a partial believer in Animal Magnetism. Let us hear what he says:—

“We may perhaps refer to the electricity of living bodies, whatever has been well confirmed as to the effects of animal magnetism; for example, the sedative and exciting phenomena produced by its operation. Every time that we operate with due precaution, perseverance, and impartiality, we shall produce these effects; there is no need of a blind credulity on the part of either the patient or of the operator. An organised body, better perhaps than any other, may be electrised by influence or by contact, through the means of electricity naturally developed in the living body, and which can be directed specially to such or such a suffering part. The experiment becomes still more easy, when the two actors are placed on insulating stools. It is the foolish pretension to produce extraordinary and marvellous effects, which some operators have put forth, that has prevented many useful results being obtained from animal magnetism.”

It remains now to notice briefly Dr. Riche's remarks on the properties of electricity as a remedial agent.

“Whenever there is an excess of electrical tension present, evidenced by tetanic contraction, by spasms and painful cramps of muscles, we should endeavour to neutralise at once this condition by an energetic shock with the Leyden jar. The same mode of employing electricity might be used with advantage in certain cases of epilepsy, catalepsy, lethargy, &c. provided always, there is no reason to apprehend any tendency to hæmorrhage or inflammation in the brain or other parts of the nervous axis.

In the treatment of palsy, it is better to give a succession of smaller shocks by induction, than by the more powerful discharge of a Leyden jar. When we wish to act deeply with feeble currents, and still more when our object is to cauterise by means of the heat produced in metallic wires by a strong current of electricity, we must have resort to acupuncture; this too is the proper method of employing electricity for the purpose of discussing or altering the vitality of tumors and other morbid degenerations.”.....*Revue Medicale.*

PROFESSOR ARNOLD ON THE FUNCTIONS OF THE PNEUMO-GASTRIC AND THE ACCESSORY NERVES.

This distinguished Professor has long paid much attention to many of the disputed points in the physiology and pathology of the nervous system. The following observations on the functions of the pneumo-gastric and the accessory nerves—the 10th and 11th pairs of the cerebral nerves according to the arrangement adopted by most German anatomists—deserve our notice. They are based on the phenomena exhibited—1, by lesions of these nerves—and 2, by experiments performed on the lower animals.

The author has collected the following cases of morbid lesion from various sources.

a. A priest, 62 years of age, had from his youth been subject to gouty attacks. During the last seven years of his life, the stomach was the seat of his chief sufferings; for eighteen months his principal distress was a most voracious appetite, which could scarcely be satisfied with any quantity of food. The contents of the stomach, when rejected by vomiting, did not exhibit any symptoms of digestion, even three or four hours after being swallowed. The respiration became embarrassed; and when the dyspnoea was most severe, a whistling noise was made, as if the glottis was contracted.

The patient became much emaciated; the pulse was natural in point of frequency, but always rather strong; and there was never any pain felt in the

chest. For several weeks before death, opium in all forms produced disagreeable effects.

The employment of galvanism generally relieved the dyspnœa. Numerous purple spots made their appearance on various parts of the body; but these vanished for some time before death.

Dissection.—Two pints of a deep-coloured fluid were found in each pleural cavity; the lungs themselves seemed healthy; the pneumo-gastric nerves, from the nucha downwards, were smaller and softer than usual, resembling in consistence the nerves in putrid bodies which have been subjected for some time to maceration; the left nerve was smaller than the right one.

Swann, who has reported this case in his work *On the Local Diseases of Nerves*, supposes that the fluid in the pleuræ had been effused only a short time before death. He adds that, in other two cases of death from thoracic complaints, he had found the *nervi vagi* considerably smaller than they are usually observed to be.

Professor Arnold remarks, that the symptoms in the preceding case are exactly those observed in animals after section of these nerves.

b. A woman, who died *pituiteuse*, had for a length of time been subject to an almost insatiable appetite.

On *Dissection*, both *nervi vagi* were found to be covered with minute reddish oval ganglia, of the size of small peas, and formed of the nervous substance itself, and not of the neurilema; the two sympathetic nerves were atrophied.

c. The next case is reported by Dr. James Johnson, in the *Medico-Chirurgical Review*, for July, 1836.

A lady, 76 years of age, had suffered for twenty years from pains in the head and back. When Dr. Johnson first saw her, she was greatly emaciated, and suffering from inexpressible anguish; she could not articulate a single word, and could scarcely swallow the smallest quantity of jelly. She experienced neither hunger nor thirst; food was introduced into the stomach by means of an œsophageal tube. She frequently complained of great tenderness in the epigastric region. Galvanism was tried, but it failed of producing any benefit. All the symptoms continued up to the period of death.

On *Dissection*, the *pons Varoli*, the medulla elongata and upper portion of the spinal cord were found in a state of *ramolissement*; the left vertebral artery, on its issue from its osseous canal, was considerably enlarged, so as to compress the corpus olivare and pyramidale of this side, which seemed smaller than their fellows on the opposite side. From the same cause the roots of the glossopharyngeal, the pneumo-gastric, the accessory and the hypoglossal nerves were somewhat pressed upon; their structure, however, did not exhibit any abnormal appearance. In the chest, there was discovered a small aneurismal tumor on the descending aorta, on the surface of which the left pneumo-gastric nerve was stretched, so as to take the form of the letter C. There was no contraction of the œsophagus in any part. The author, Dr. Johnson, was of opinion that respiration and digestion had been maintained by the intact nerves of the right side.

J. A case is mentioned by Bell, in his physiological and pathological researches on the nervous system, in which a convulsive affection of the sterno-cleido-mastoid and of the trapezius muscles was the most remarkable feature.

The patient was obliged to support his head with both hands; he complained that his body was always drawn round to one side with great force. The sterno-cleido-mastoid muscle during this time became tense as a board, and the right side also of the neck became almost equally stiff, owing to the convulsive contraction of the trapezius muscle. The head was drawn and fixed downwards, the face being turned to the left side, and the chin directed upwards. The breathing was unembarrassed, and there was no pain felt in the chest. When the spasmodic attacks were very violent, the muscles of the larynx be-

came affected, and the patient seemed to try to expectorate something that hindered him from speaking. These attacks were brought on by drinking any fluid; it was only during sleep that they ceased entirely.

Besides these four cases; now briefly reported, we may point to other two—one published by Cappel (*De Epilepsiâ e tumore nervo vago inherente*, Helmst. 1781.) and the other by Tilgen, (*Diss. obs. syst. fungi medullæ nervi vagi, &c.* Bonnæ, 1830,—*Raucedo, tussis, vomitus Ciborum incoctorum et potuum.*)

Professor Arnold has performed numerous experiments on dogs, rabbits, chickens, and pigeons, for the purpose of ascertaining the functions of the pneumo-gastric nerves.

It is unnecessary to give the details of these, and we shall therefore condense their general results in the following remarks.

The pneumo-gastric nerve is considered by Professor Arnold, contrary to the opinion of many physiologists, to be a sensory nerve, and as capable of communicating impressions made on its extreme filaments to the brain: these impressions being communicated with greater or less distinctness, according to the special functions of the mucous membrane on which it is distributed.*

It communicates the sensation of hunger, and the *besoin* of respiration. It has not any *direct* influence on the secretion, or on the quantity or quality of the gastric juice, (as supposed by Tiedemann, Brodie, W. Phillip, &c. who have alleged that the secretion of proper gastric juice is suspended by the division of the *nervi vagi*;) nor upon the muscular contractions of the œsophagus and stomach, nor upon the process of chymification, nor on the muscles of the glottis, nor upon respiration or the movements of the heart, nor on the heat of the animal, nor on the process of arterialisation or the conversion of the black into red blood.

But as it is a nerve of sensation, and therefore cannot continue, after being divided, to communicate to the brain the *besoin* of breathing, the respiration becomes after their section slower and slower, the arterialisation of the blood is thereby impeded, the temperature of the body falls, the blood accumulates and stagnates in the cavities of the heart, in the great vessels, and in the lungs, and ultimately the animal dies suffocated. It thus appears that the fatal effects of the section of the *nervi vagi* are *indirect*, and are not, as many physiologists, have supposed, attributable to any immediate paralysis of the respiratory parenchyma, or of the muscles of breathing, but rather to the *besoin* of breathing being no longer felt by the animal, and the consequent gradual retardation and ultimate suspension of this vital process.

Hence the circulation of the blood through the lungs becomes more and more embarrassed, and as the blood is but imperfectly aerated, the functions of the nervous system gradually cease. The animal dies asphyxiated; but the asphyxia or suffocation is slow and progressive, unless there be some obstruction of the

* The division of the pneumo-gastric nerve in the neck is not productive of pain; but when the superior laryngeal branch is divided, acute suffering is experienced. The more exquisite sensibility of the larynx and glottis than that of the œsophagus and stomach is accounted for by Professor Arnold on the ground that some of the branches of the nerve are much less connected with, or involved in, its plexuses than others. Thus the superior laryngeal branches participate little, if at all, in the *gangliiform* plexus, whereas that portion of the nerve, which descends to the gullet and stomach, contributes largely to its formation.

Now it is an admitted position in physiology, that nerves, which expand themselves in plexuses, convey impressions to the brain much less quickly and distinctly than other nerves which are insulated.

glottis or of the windpipe—as is apt to be the case, more especially when a young animal is the subject of experiment.

The internal branch of the accessory nerve presides over the contractions of the œsophagus, and those of the glottis and stomach: it becomes united with the pneumo-gastric in the neck.

It is, therefore, very important, as well in experimenting on animals as in observing the effects of disease in man, to distinguish the symptoms induced by any lesion of these two nerves.—*Archives de Medecine, Août.*

MICROSCOPICAL DISTINCTION BETWEEN THE SENSORY AND THE MOTORY NERVES.

In a paper on the functions of the ganglionic nerves by Dr. Remak, in the June number of Ammon's Monatschrift, we observe the following paragraphs:—

“Every nervous bundle is composed of an assemblage of primary filaments, which do not communicate together, but are only in juxta-position even in the most intimate plexuses.” “Ehrenberg was the first to demonstrate by microscopical examinations that in every nervous bundle we may distinguish the motory from the sensory filaments; the former remaining after death quite cylindrical, and presenting only a slightly rugous surface, whereas the latter exhibit a distinctly varicose or nodulated appearance.

.... “Not only may we distinguish the sensory from the motory filaments, but we may also distinguish the filaments of those nerves belonging to organic life from those which belong to animal life; the former are of a red colour and extremely slender, whereas the latter are white and much more distinct.” “Usually we observe in a nervous bundle the three sorts of primary filaments—the motory, the sensory, and the organic. The organic filaments, which proceed from ganglions backwards to the spinal marrow, become more and more slender, until they are at length lost in the substance of the cerebro-spinal axis.” “In the cerebro-spinal system, there are two sets of actions performed; on the one hand, sensations perceived, and on the other, the reactions of volition. Two analogous actions are observed in the organic life: there is an organic perception, or what Haller called irritability; and there is a reaction, or the function of organic reflexion, so ably demonstrated by Müller. We may therefore say that in the animal economy there is a double *sensorium commune*; one, belonging to the life of relation, is the cerebro-spinal axis; and the other, belonging to organic life, is the ganglionic system.”

FATAL POISONING FROM ACONITE.

On the 11th of June, twelve patients affected with scorbutus and pellagra were seized with extreme *malaise* about an hour after swallowing a dose of what was supposed to be the fresh juice of the *cochlearia*. One of them, a man of about sixty years of age, after suffering from dyspnœa, vomitings, and great anxiety, died in the course of a few hours. Two middle-aged women also, affected with pellagrous insanity, became restless, then convulsed, and at length paralytic, and died. It was supposed at first that they had an attack of mania.

The remaining nine patients fortunately recovered under the use of active treatment; they were all more or less affected with the following symptoms:—rapid prostration of physical and mental energy, dilatation of the pupils, distressing headache and vertigo, pain and tension of the abdomen, accompanied with borborygmi and vomiting of green-coloured matters, great anxiety and

sense of oppression at the chest, coldness of the whole body but especially of the extremities, and livid colour of the nails, cramps in the legs, small and fluttering and occasionally imperceptible pulse, &c.—everything indicated a state of extreme hyposthenia or general prostration.

By the use of stimulants given inwardly, and of friction of the extremities with warm spirituous embrocations, these alarming symptoms were gradually removed. The dissection of the three persons, who died, revealed the following appearances:—

The vessels of the pia mater and of the arachnoid membrane were highly injected, and a small quantity of serosity was found between the meninges and the base of the brain. The lungs were gorged with blood; the heart was flabby and contained a small quantity of dark fluid blood. The mucous surface of the stomach and small intestines exhibited patches of vascular injection; the texture of the spleen was extremely soft. On making enquiries in the laboratory where the medicine had been prepared, it was found that the juice of the *cochleuria* had been inadvertently put into a vessel which contained some fresh juice of *aconite*, and that this mixture of the two had been dispensed to the patients. "This fact," says the reporter in conclusion, "while it is on the one hand deplorable by the loss of life which took place, is, on the other hand, very instructive; for it most distinctly confirms the accuracy of Giacomini's opinion, that aconite is to be regarded as a direct sedative or hyposthenic medicine, and that its proper antidotes are stimulants, such as spirituous liquors, opiates, cinnamon, &c. Some modern toxicologists have committed a serious error in regarding aconite as an acrid narcotic, which requires antiphlogistic remedies to counteract its stimulant effects. We observe no genuine traces of inflammatory action in the bodies of those who have fallen victims to this poison: the mere circumstance of patches here and there of vascular fulness along the alimentary canal proves nothing; for this appearance is observed in almost all cases where life is extinguished from the operation of sedative agents. The flaccid state of the heart, the softened lacerable condition of the spleen, the emptiness of the large blood-vessels, and the passive stasis of the blood in the substance of the lungs—all tend to prove that death was the result of a general prostration of the vital powers.—*Gazette des Hôpitaux*."

M. LEURET ON THE USE OF BELLADONNA IN EPILEPSY.

During the last three years, M. Leuret, physician of the Bicetre, has very extensively administered this potent medicine internally in cases of epilepsy, and the results of his practice have recently been published in the pages of the *Gazette des Hôpitaux*.

After detailing the reports of seventeen, out of numerous other cases treated with belladonna, the memoir concludes with the following observations:—

"If we now compare the results in these cases, we must see that, in almost every one, there was a decided amendment after the use of the remedy. This amendment was most conspicuous in the early period of the treatment; and the good effects seemed to be more lasting in proportion as the physiological effects of the belladonna were least marked. There was rarely an exception to this remark; in one case however there was certainly a striking coincidence in the cessation of the epileptic fits with the invasion of the almost maniacal delirium and agitation which followed the administration of the medicine. As a general remark, we may state that, in the majority of instances, it was rather in the diminution of the frequency than in the abridgment of the severity of the fits, that the amelioration was most decided. In some cases, however, the fits became not only much less frequent, but also much milder.

Another result of our observations is, that the effects of the internal use of belladonna on the general system usually do not remain energetic beyond a few days, even in cases where the doses have been considerable. Might it not therefore be prudent to alternate the use of this remedy with some other which is known to be useful in cases of epilepsy?

The effects of belladonna, internally administered, are most conspicuous on the circulation, the powers of vision, the nervous system, and the tongue.

1. In every one of our patients, the pulse was found from the second day of treatment to be accelerated: this acceleration continued for different periods of time, from three or four to fifteen or even twenty days, in different cases.

2. The same remark is applicable to the dilatation of the pupil; this having been observed in every case without exception. This effect was however more durable than the former one; it usually lasted for a length of time, and, in more than one case, during the whole course of the treatment.

Along with the dilated state of the pupil, there were, in some instances, confusion of vision, or partial blindness, myopia, &c.

3. The most remarkable of the nervous symptoms induced by the belladonna were a greater or less degree of restlessness and excitement, approaching sometimes to inordinate gaiety and at other times to furious delirium; frequent hallucinations; convulsive crying or laughing; a tottering in the gait, &c.

It is well worthy of especial notice that these nervous symptoms were always most decided in those cases, in which the disease resisted the use of the remedy. Should we consider them as the results of the disease rather than of the remedy?

4. One of the most constant and most durable of the effects of the belladonna is a very marked development of the papillæ of the tongue: there is frequently at the same time, a sense of dryness of the mouth, and thirst. In no case, however, had we occasion to observe that feeling, of burning heat in the mouth and throat, excessive thirst, and profuse diarrhœa, which some writers have attributed to the internal use of the remedy. In all our cases, the patients continued to take their food as usual.

With respect to the doses, in which we may administer belladonna, M. Leuret has, in almost every instance, been in the habit of ordering 30 centigrammes (about half a grain) at first, one-third part being given at equal intervals during the twenty-four hours, doubling this quantity on the second day, and on the fourth or fifth day raising it to 90 centigrammes, at least in some cases. By far the best preparation is the alcoholic extract; it may be given in the form either of pills or mixture.—*Gazette des Hôpitaux*.

Remark.—These observations, based as they are on the results of clinical experience during several successive years, deserve the notice of the practical physician.

We have no hesitation in saying that, in our opinion, the internal administration of sedatives is far too much neglected in the treatment of epilepsy and other allied affections of the nervous system. We have repeatedly seen excellent effects in such diseases from the exhibition of from ten to fifteen drops of the tincture of henbane three times daily for four, six, or eight weeks at a time—then omitted for a week or so, and again resumed in smaller and less frequent doses. Some of the metallic tonics, as the nitrate of silver, the sulphate of zinc, &c. either alone or in combination with quinine or valerian, may be advantageously given at the same time. In cases where a seton is deemed advisable, we have observed that it is often decidedly more useful if established over the heart than in the nape of the neck, as usually recommended. That epileptic and epileptiform diseases are, if not actually dependent upon, always accompanied with, a tendency to disturbances of the general circulation, must be known to every physician; and there is perhaps no remedy so efficacious against such disturbances as a permanent irritation in the cardiac region.—*Rev.*

CASES OF NEURALGIA TREATED WITH ACUPUNCTURATION.

Case 1.—*Neuralgia of the Foot*.—A young woman, when 23 years of age, became affected with a most excruciating pain in the right foot, which was occasionally swollen and apparently highly congested. She was repeatedly bled and the foot was frequently leeches; but without effect. For ten months she was obliged to keep her bed. When admitted into the clinical wards of the Turin Hospital under the care of Professor Riberi, the seat of the pains and swelling was on the outer side of the foot; from this point the pains extended up along the leg, and the swelling affected the entire *dorsum* of the foot. Whenever the foot was lowered even a few lines below the horizontal level, the sufferings were much increased, and the same result followed the mere pinching of the skin. The “point de départ” of the pain was manifestly in the nerves of the foot. Antiphlogistic remedies were tried at first; but although the constitutional health, which had begun to suffer, was considerably improved under their use, there was no relief of the local neuropathy. M. Riberi then tried acupuncture: ten needles were inserted into the flesh, and allowed to remain in for the space of an hour. The operation was repeated four or five days afterwards, and subsequently at seven different times. The second time, the needles were left in for two hours; then for three, four, and even five hours. From the date of the first operation, the pains were so much relieved that the patient could rest on the affected foot, and in the course of a month she was able to leave her bed and walk about, her sufferings having entirely ceased.

Case 2.—*Sacro-lumbar Neuralgia*.—Giuseppe Vola, 33 years of age, had in the course of the year been affected with hydrocele on both sides; he was radically cured in the one instance by incision, and in the other by injection of the sac with the tincture of iodine. Subsequently to this, he began to suffer from most severe sacro-lumbar neuralgia. “This I relieved as by enchantment,” says Prof. Riberi, “by means of a single acupuncture; the needles were left in for three hours. Three days subsequently the pain returned; and again it was as quickly relieved.”

The place where the needles were inserted, and the number used, are not stated.

Case 3.—*Severe Brachial Neuralgia*.—A young woman, about 20 years of age had been often affected with various nervous complaints. While being bled from the arm, she experienced, at the moment the incision was made, a violent involuntary trembling accompanied with an intense pain in the fold of the arm, and a rigid contraction of the fore-arm. This contraction continued with such violence that it could not be overcome by the use of splints or any other means that were used. When admitted into the hospital, the chief symptoms were the intense pain of the arm, complete loss of sleep, and considerable derangement of the digestive organs. The pain was of two kinds; the one dull and cramp-like, the other lancinating and burning. The seat of the former was chiefly in the course of the median nerve, and extended downwards from the fold of the arm to the fingers; whereas the latter, which was not accompanied with trembling of the affected parts, involved all the nerves of the arm, not excepting those of the skin, and sometimes passed on to the trunk, affecting the lungs and the heart: hence the sense of suffocation and of constriction of the chest, and the syncope, which often supervened during the paroxysms of suffering. The cicatrix presented a small, almost imperceptible, knot, which was certainly not the only, nor even the principal cause of the pain. The severity and continuance of the patient's sufferings at any time seemed to be much influenced by the state of the atmosphere.

The paroxysms of pain were brought on by either quickly extending or bending the fore-arm or all the fingers at one time, or by pinching the middle finger, or again by pressing on the cicatrix at the bend of the arm, or by gently rubbing the arm or fore-arm with the hand, &c.

Whatever was the exciting cause, the pain, developed either in the cicatrix or in the fingers, shot with the rapidity of lightning to every part of the limb, then to the shoulder, chest, and region of the heart, and the most frightful symptoms were induced.

To prevent all sorts of friction, pressure, or extension of the limb, the patient, when walking lowered her shoulder and inclined her body to one side, as if she was affected with a lateral curvature of the spine.

After trying the effects of the internal use of belladonna and henbane, and of the external employment of prussic acid, &c. Signor Riberi had recourse to acupuncture. From ten to twenty slender needles were inserted into the flesh of the arm along the course of the median nerve, and allowed to remain in for from two to four hours. This operation was practised about twelve times in the course of two months. After each acupuncture, a very marked relief was obtained; and ultimately the patient was completely and permanently cured. It deserves to be mentioned, as a very striking proof of the efficacy of the remedy, that from the very first day of its employment the patient was able to move the arm without much distress, and the pain, from being fixed, became moveable, and ceased at those points where the needles had been inserted; so that by multiplying these punctures, the pain became more and more distant, and at length finally ceased. After the sixth operation, the patient did not complain of any pain, unless when firm pressure was made over the course of the median nerve or of its principal branches; and after the tenth operation, she was able to use her arm freely in her domestic occupations.

Case 4.—*Lumbo-sciatic Neuralgia.*—A countryman, 63 years of age, was admitted into the hospital with a large hydrocele of the right testicle. The urinary passages were excessively tender, and there was always more or less ischuria. The hydrocele had been preceded with severe pains not only in the affected testicle, but also in the right groin and in the loins, which had continued with great violence for ten days, and were followed by the occurrence of numerous varicæ of the veins in both legs, and more especially in the left one. Subsequently to this, the patient had suffered with symptoms of inflammation of the upper part of the spinal marrow—the chief symptoms were vertigo, stupor, spasmodic pains in the upper extremities, and afterwards a sense of dulness and weight in these parts. By the use of leeches, and of a seton, &c. these symptoms were entirely removed. The hydrocele, which was of several years standing, had acquired a considerable size; and the patient complained of intense neuralgic pains in the corresponding testicle, radiating from this point to the loins, and to the right sciatic region, in which it ultimately fixed.

After the evacuation of the water from the tunica vaginalis, the lumbo-ischiatric pain became more severe than ever, and the right limb was quite powerless. Twenty needles were inserted,—(it is not stated where)—and allowed to remain in for upwards of three hours. The operation was repeated four times; and a radical cure was obtained.

Case 5.—*Painful Paralysis of the Limbs.*—A middle-aged woman was, attacked, subsequently to a troublesome disturbance of the menstrual function, with severe pains in the loins, which were gradually followed by a paralysis of both lower limbs. Every now and then she experienced spasms, which extended from the limbs to the abdominal parietes and spine, and were accompanied with formication, lancinating pains, a sense of tightness and constriction and of great heat. To these symptoms succeeded a numbness in the limbs, extreme slug-

gishness in the intestinal and urinary evacuations, and at length a state of complete paralysis. Various local stimulants had been tried; but they seemed to be rather hurtful than otherwise. This indeed might have been expected, seeing that the disease depended upon a sub-inflammatory state of the lower extremity of the spinal cord and of the principal nervous trunks which issue from this part. Under the use of perfect quietude and a mild antiphlogistic regimen, the patient somewhat improved; and Professor Riberi then had recourse to acupuncture. Twenty needles were inserted into the sacro-lumbar region, and along the course of the sciatic nerves, and allowed to remain in for about three hours: this operation was repeated eight different times.

After the second operation, the pains had nearly ceased; and soon afterwards the bladder recovered its expulsive powers. At the end of three weeks from the first employment of the needles, the woman was able to leave her bed and walk about the wards without the aid of either crutch or stick. Gradually the limbs regained their healthy suppleness and force, and a complete and durable cure followed.

The last case reported by Professor Riberi was one of more than ordinarily severe lumbago, which had resisted all the usual remedies. Acupuncture was therefore had recourse to, and with the best effects; for ultimately the patient was quite cured. The operation was repeated ten different times; eighteen or twenty needles being introduced each time. It was remarked that the pain never returned in the seat of the punctures.

The series of cases now detailed proves, in a very satisfactory manner, the powerfully remedial effects which the operation of acupuncture has in relieving various forms of neuralgic suffering. The attention of practitioners is apt to be distracted in the treatment of this too-often most unyielding complaint by the multitude of remedies which are daily proposed: acupuncture is certainly one of the most efficient, and deserves a more extensive trial than has hitherto been given to it.—*Gazette des Hôpitaux*, No. 96.

REPORT ON M. PETREQUIN'S METHOD OF TREATING DEAFNESS.

Since the publication of M. Petrequin's Memoir on the Treatment of Deafness by alum gargles and insufflations,* various experiments have been made in different parts of France and Belgium, to ascertain the effects of these remedies, and the Royal Academy of Medicine has directed its attention to the subject in the course of last year. A lengthened and very favourable report has been recently laid before the Medical Society of Lyons by M. Brachet, of which the following brief account may be interesting to our readers.

After alluding to M. Petrequin's opinion, that the use of the Eustachian tube is similar to that of holes made in a drum—viz. to renew the air within the cavity of the tympanum—and presenting an abstract of the eleven cases reported at length in his memoir, the following important conclusions drawn by M. B. from his experience are given: 1. That deafness is of very frequent occurrence in old people, in whom the mucous membranes do not perform their functions healthily, and who are subject to catarrhal congestions; also in those persons who have been subject to any of the numerous forms of inflammation of the pharynx.

2. That the inspection of the throat furnishes a means of exploration which greatly facilitates the diagnosis, by often revealing a chronic and indolent inflammatory state of its mucous membrane.

* Vide Medico-Chirurgical Review for July, 1839.

3. That Sir A. Cooper was mistaken in considering the existence of a humming noise in the ear as a symptom exclusively of nervous deafness ; a form of the infirmity which is also of much less frequent occurrence than he supposed.*

4. That it is a serious error to consider as incurable all cases of deafness, in which the patient cannot hear the ticking of a watch placed between his teeth ; and that it is highly probable that many persons are from this mistake left without medical assistance, which if applied in time might have relieved the infirmity.

5. That the diagnosis of obstruction of the Eustachian tube, easily established when redness of the pharynx exists, is much less so, when this has disappeared, and when the lesion of the tube alone remains.

M. Petrequin, however, is of opinion that we may suspect the existence of this lesion, by the varying condition of the sense of hearing in different states of the weather, and when it is somewhat better, for a longer or shorter period of time, after a fit of coughing or sneezing.

6. That the prognosis or chance of cure in this form of deafness is by no means so unfavourable as B. Bell and Sir A. Cooper have alleged ; that often it may be cured by fluid or gaseous injections, or by cauterization of the opening of the Eustachian tube in the throat, or by the use of alum applied either in the dry or liquid form to the back of the fauces—as a gargle, or as a powder mixed with sugar and insufflated upon the fauces, or lastly, the direct application of a stick of alum—recommended so strongly and used so successfully by M. Petrequin. He believes that this salt has a special effect on the pharyngeal membrane, independently of its merely astringent operation. However this may be, it would seem that it has a most beneficial influence on many maladies of the mouth and fauces. MM. Bretonneau and Pommier have strongly recommended it in the treatment of tiptherite, Signor Bennati in various affections of the larynx, and M. Velpeau in diseases of the throat. Its administration is easy, and does not interfere with the employment at the same time of other remedies, as antiphlogistics, revulsives, purgatives, cauterisation, the catheterism of the Eustachian tube, and the baths of compressed air, which have been so successfully used by M. Pravaz.

Hitherto no trial has been made of injecting a weak solution of alum directly into the Eustachian tube ; but it is more than probable that the practice will be found highly useful in many cases.—*Bulletin Medical Belge*.

Remark.—The reflections of M. Petrequin, based as they are upon the results of clinical experience, are certainly well deserving of attention. We should suggest the addition of tincture of capsicum to the alum gargle, as rendering it probably still more efficient in dissipating the chronic inflammatory state of the fauces and pharynx, which according to his observations, is so frequent an accompaniment of deafness.—*Rev.*

ON SOME REMEDIES AGAINST SLEEPLESSNESS.

M. Max. Simon, after alluding to the various causes or states of the system that are apt to induce sleeplessness—in some of which it is merely one of many symptoms, and cannot therefore be relieved until the existing disease subsides,

* M. Petrequin is probably quite correct in his opinion, that the nervous form of deafness is not nearly so common as is generally imagined by medical men, and that the real cause of the infirmity in a great number of cases is a sub-inflammatory state of the mucous lining of the tympanum and of the Eustachian tube.

while in others it is an adjunct, or, as the French say, an epi-phenomenon, and may yield to remedies, although the disease remains unmitigated—proceeds to offer a few comments on some of the most valuable hypnotics, and on the best mode of employing them.

Opium, as a matter of course, is first on the list. From phthisis pulmonalis to cancer, and from hysteria to delirium tremens and tetanus, there are few morbid states of a non-phlogistic nature, in which sleeplessness may not give rise to a special therapeutic indication, and which may not be successfully combated by some preparation of opium.

An illustrious physician of the old school has said, that it is chiefly by the skill and tact displayed in the administration of this drug that one physician may be distinguished from another:—he was quite right; as no medicine requires more practical skill for its proper employment. “*Sacra vitæ anchora circumspécit agentibus est opium; cymba Charontis in manu imperiti.*” says Wedel.

How different are its effects on the system in different cases, where it fails of producing its narcotic action! For example, when administered in many cases of phthisis and of neuralgia, we often observe that, although it may not quiet the cough in the one case, nor the pain in the other, it does not give rise to any unpleasant symptoms either on the local or on the constitutional disease; its action seems to be merely neutralised and nullified. But it is far otherwise when the sleeplessness is the special symptom for which the opiate is given; for then, if it fails as a soporific, the agitation of the patient is singularly increased, and a general uneasy restless state, with headache and feverishness, is induced.

There was some reason, therefore, for Brown exclaiming, “*Mehercle, opium non sedat.*” We repeat, it is more especially when sleeplessness in any case is the predominant phenomenon that opium is apt to fail in procuring sleep, and to aggravate the nervous excitement which may be present.

The reason of this difference in the action of the same medicine in different circumstances seems to be that, when it is given to abate severe pain, or to quiet the cough in tuberculous affections of the lungs, the nervous system participates only very partially in the local morbid action; whereas the state of sleeplessness implies the existence of a morbid state which is altogether more complex, and which involves the whole nervous system. Hence it requires a much more rigid analysis of the general condition of the entire economy, to detect the phenomena which may compromise the soothing effects of the remedy. The pulse furnishes us with perhaps the most safe rules to guide our practice under such circumstances. If it be full and at all hard, the use of opium is contra-indicated; but when it is soft, compressible, and, so to speak, nervous, we may then anticipate that it will prove soothing and soporific.

Besides the usual methods of exhibiting opium, there is one which is much less frequently tried than it deserves to be;—we allude to the plan so strongly recommended by that veteran of the German school, Hufeland. This consists in the application of a plaster composed of henbane and opium to the temples.*

*The proportions recommended by Hufeland are, of the plaster of henbane half an ounce, and of that of opium a scruple. (Does he mean the extract of the two plants!) These doses may be varied according to the symptoms of the case; or the extract of belladonna may be substituted for that of the henbane. Either may be reduced to a syrupy consistence by the addition of a sufficient quantity of laudanum, and may then be applied to the temples by means of a portion of lint dipped in the mixture.

To ensure the better penetration of the skin, it is always well to cover the part when wetted with a piece of oil-skin; the absorption or imbibition is thus rendered more certain.

We have several times found that in this way sleep may be induced, without the risk of inducing any of the unpleasant symptoms which not unfrequently follow the internal use of all narcotic medicines. It is admirably suited for those cases in which sleeplessness has been brought on by intense grief, or by protracted application of the mind. The application should be repeated every evening, just before bed-time, for several successive nights. We do not know that a fair trial has been given to it in that not uncommon set of cases in which there is a most distressing excitement of the nervous powers, bordering almost on mental derangement: also in delirium tremens, incipient insanity, &c.

But it is not by *material* or physical means alone, that we may sometimes succeed in inducing sleep; the vagaries of the mind itself may be often used to summon back this "best balm of nature," when frightened from our couches.

Some German writers, as Gruithuisen, Purkinje, &c. have made a special study of dreams, and, by analysing their phenomena in a philosophical manner, they have been led to the conclusion that the various phantastic images of every shape, colour and size, which are so often seen to dance before the eyes when we close them for sleep, are veritable elements of dreams.

Now Burdach, availing himself of this idea for therapeutic purposes, suggests that, as these fantastic images are the beginnings, as it were, of a dream, they will necessarily induce sleep, if we can but tranquillize ourselves sufficiently to regard them, and contemplate their play without any intellectual reflection. The experiment is easily made by every one; and we have often satisfied ourselves of the correctness of Burdach's suggestion.

We must not, be it remembered, endeavour at the time to analyse and explain the phenomena, but only keep our attention fixed upon the fantastic image, without doing more. Gradually it (the image) becomes fainter and more indistinct, until a complete dreamy state with all its faëry scenes comes on:—now, *to dream, is to sleep*.

Some other writers, who have paid much attention to this curious department of physico-mental study, have suggested, as a useful means of inducing sleep, that the attention should be kept fixed upon the mental image of a calm unruffled sea, or on that of a vast desert, in which there is nothing to break the wide expanse of uniformity. It is this very uniformity of the image, pictured by the imagination, that brings on a drowsy unimpassioned state of feeling which is akin to sleep.

M. Simon would seem to be a partial believer in the remedial powers of magnetism, (we suppose animal magnetism); for he suggests that a trial of it should be made in certain cases of sleeplessness, in which the use of opiates, &c. either has proved ineffectual, or may be deemed inexpedient. He mentions the case of a lady, suffering from all the tortures of cancerous disease of the uterus, in whom he witnessed the soothing and soporific effects of this agency. But he is a timid disciple of Mesmerism: for he candidly confesses that "the fear of acquiring the name of a magnetiser prevented him from repeating his experiments in the case alluded to more than twice or thrice!" (We need scarcely say that whatever withdraws the attention from a local suffering, and keeps it fixed on any mental exertion, will often have the effect of making us entirely insensible to pain. How often do we read of soldiers and sailors, during the hurry and excitement of action, being actually not even aware that they have sustained some frightful wound for some time afterwards? and who has not experienced in his own case that many a sharp ache has been charmed away by the report of some unexpected news, by the lively conversation of a friend, by the perusal of a fascinating book, or by the mere repetition to oneself of various passages from some favourite author? There is therapeutic as well as moral wisdom in old Spencer, when he says,—

"It is the mind that maketh good or ill,
The wretch or happy."

We should therefore be cautious before admitting the existence of any special agency, such as the animal magnetisers seek to prove; although we must, at the same time, confess that it is far from improbable that living animal bodies may have some modes of operation, one upon the other, which have hitherto escaped our exact scrutiny.—*Rev.*)

M. Simon, in concluding his observations, alludes to that sleeplessness which is not unfrequently noticed at the decline of inflammatory and other acute diseases, and very properly says that a restless state of the nervous system is apt to be induced by pushing antiphlogistic measures too far, or by continuing their use beyond a certain period; the cautious use of gentle tonics, and more especially of light food, being in general the best remedy in allaying irritation and inducing sleep.—*Bulletin de Therapeutique.*

TREATMENT OF SMALL-POX WITH MERCURIAL APPLICATIONS.

It is scarcely necessary to remark that the *ectrotic method*,—which consists in the application of the nitrate of silver to the pustules—of treating small-pox was proposed some years ago by M. Serres, as a most effectual means not only of preventing the pitting of the surface, but also of rendering the constitutional disturbance less severe. It has been fairly tried by MM. Velpeau and Bretonneau, as well as by many other medical men; and their experience has been on the whole unfavorable to its adoption. The chief objections seem to be the pain which is caused, and the great difficulty of applying the caustic to all the pustules.

Subsequently M. Serres has strongly recommended the application of the *emplâtre de vigo*, a mercurial ointment or plaster, to variolous pustules; and we are pleased to find that the experience of several other good observers has fully confirmed the favorable reports made by him of this practice. In the late epidemic of small-pox in Paris, Dr. Briquet gave an extensive trial to the mercurial inunction, more especially of the face and the other exposed parts of the body, and the result of his observations is strongly in favour of M. Serres' proposal. Within the last few months, M. Chomel also has been adopting it in his practice at the Hôtel Dieu; and the following cases are drawn from his clinique.

Case 1.—A girl, 19 years of age, was admitted with all the symptoms of regular semi-confluent small-pox. A mask made with the *emplâtre de vigo* was applied over the face on the second day of the eruption. Although it was torn off by the patient four and twenty hours afterwards, its effects seemed to be very remarkable. Whereas the pustules on the neck, chest, and body exhibited all the usual characters of genuine small-pox, the eruption on the face appeared to be quite abortive, being either merely vesicular, or altogether solid and papular. Wherever the plaster had been applied, such was the character of the pox; but in every other part it was distinct and full-formed.

Case 2.—In the St. Augustine ward there is another variolous patient, who has been treated in the same manner, and who is now convalescent. The desquamation has followed its usual course, except on the face, where scarcely any scabs have formed, and then only in those points which had not been acted upon by the plaster. This case is interesting, as it confirms the assertion of M. Serres, that there is no desquamation under the influence of the mercurial plaster.

Case 3.—In the same ward there is a woman, who is in the sixth month of pregnancy, and is labouring under well-marked small-pox. M. Chomel did not

hesitate to apply the mercurial plaster to the face; and the inspection of the patient will shew how complete the success has been. The form of the eruption has exhibited in this patient some peculiarities. A semicircular zone or band of a bright red colour, and about two inches broad, extended from over the lumbar vertebræ to the axilla of either side: the redness did not disappear on pressure. The temperature of this zone was greater than that of the rest of the body. At first it seemed to be different from the general malady; but soon there were developed over the course of the zone distinct, but extremely small, and agglomerated variolous pustules.

The eruption on the face became quite abortive, the pustules remaining small and of a whitish appearance; there was no scabbing, excepting at the edges of the lips and the eyelids, where the action of the mercurial mask had not taken effect.

These cases appear to confirm the opinion of M. Serres, that the mercurial application to the pustules of small-pox has a most powerful influence in modifying their usual course; the pustules so treated being not surrounded with their usual red areola, the suppuration being very imperfect, and the swelling and tension of the integuments being trifling or altogether absent.—*Gaz. des Hôpitaux*.

Remark.—The circumstance of this practice being favourably reported of by so experienced and cautious a physician as M. Chomel, gives us a warrant to try it fairly on this side of the Channel.—*Rev.*

M. LUGOL ON CUTANEOUS SCROFULA.

A few extracts from some of the lectures recently delivered by this distinguished physician will be read with interest.

..... "Scrofula of the skin sometimes commences with a simple fissure or crack, which causes a most troublesome itching. A crust or scab forms upon the part; and, when this falls off, we often find an ulcerated surface of greater or less depth and extent.

At other times, the disease begins with a red patch; the skin becomes thickened and indurated; it assumes a livid aspect, and pustules form upon it—in other words, there is an eruption of the pustular form. Occasionally the pustules are excessively solid and hard, and are then improperly termed tubercles;—improperly we say, because they always terminate in suppuration, and then exhibit no difference from pustules.

In a third set of cases, cutaneous scrofula commences by the generation of a tuberculous deposit under the skin, which becomes in consequence elevated and detached. In course of time, this becomes reddened and eventually gives way; and the tuberculous matter is then found transformed into a genuine pustule.

Cutaneous scrofula most frequently is seen in the teguments of the face; very often on the alæ nasi, the cheeks, chin, and eyelids. It is much more rare on the neck, body, and extremities."

..... "The disease necessarily involves a derangement of the functions of the skin. One of the most remarkable symptoms is an increase in the perspiration of certain parts, especially the axillæ, hands and feet. There is established a sort of supplementary function, which becomes a *besoin*, and an indispensable condition of health. I often see a young girl in whom this abundant secretion of the transpiration is almost constantly present, and who is at the same time affected with leucorrhœa.

If this excessive discharge of the perspiration is suddenly checked, the health often suffers; a troublesome cough, for example, and a state of general malaise

is induced; and these symptoms will sometimes not yield, until the checked secretion is restored."

Frequent Co-existence of Lice with Cutaneous Scrofula.

"The greater number of the scrofulous patients in this hospital are affected with them; and for many years past I have had many opportunities of pointing out this curious coincidence to my pupils. It would be quite erroneous to refer this to any want of cleanliness on the part of the patients; for they are all obliged to attend to their persons with the greatest care; and moreover we not unfrequently observe these vermin in scrofulous children of the higher classes, who are invariably kept with the greatest nicety.

Another sign, or perhaps more properly speaking, another frequent complication of scrofula, is the tendency to severe chilblains; whenever these are very obstinate, you may suspect the person's constitution.

In some cases, the skin is unusually dry and subject to pruriginous eruptions; in others, it is generally moist and unctuous.

It is of great practical importance to ascertain the constitution of a patient affected with any cutaneous disease; for all the forms of it are invariably more severe and unyielding in persons who are scrofulous. How often do we find that, when the eruption on the skin is removed, an ophthalmia, or leucorrhœa, &c. makes its appearance, and resists for a great length of time all remedial means. When some of the forms of impetigo occur, the cuticle, not only of the pustules themselves but of the entire extremity, or of the face if it happens to be affected, separates, leaving an immense excoriated surface. I lately had a young man under my care, in whom both arms were completely denuded of their epidermis, and a great part of the lower extremities at the same time. It is interesting to watch the reproduction of the cuticle in such cases: various islands, as it were, are formed in different parts, and these gradually widen more and more until they coalesce, and the entire surface is re-covered with its epidermal investment."..... *Gazette des Hôpitaux.*

TWO CASES OF SPONTANEOUS EMPHYSEMA.

The first case occurred during the act of parturition, and the patient gradually recovered.

A woman, 28 years of age, and who had never suffered from any affection of the respiratory organs, suddenly during the pains of childbirth, lost her voice, and at the same time felt a swelling on the fore part of the neck; this gradually extended over the front of the chest, the sides of the neck and the face.

The integuments were so much puffed out, especially on the face, that the patient could hardly be recognised by her attendants; when pressed upon, a distinct sound of crepitation was audible. The patient felt a good deal oppressed at the chest, and complained of a sense of tingling over the skin. As the labor was very tedious, the child was delivered by means of the forceps. The emphysema continued with but little diminution for four or five days, and then gradually subsided; but for some time afterwards the crepitation was perceptible in the parts which had been inflated.

This species of emphysema is not unfrequently observed to take place after any violent exertion, in consequence, no doubt, of the person forcibly holding his breath, while the lungs are more than usually filled with air. The air must escape from the upper part of one of the superior lobes of the lungs, as the em-

physematous swelling almost always occurs at first about the lower part of the neck. Usually all that is necessary to be done is to keep the patient perfectly quiet and silent.

The *second* case was more serious.

A young girl had been ailing, for five or six months, with symptoms which were attributed to the approach of menstruation. She suffered at the same time from a certain degree of difficulty in swallowing, and an uneasy feeling in her throat: but these symptoms, although constant, were considered by her medical attendant as of an hysterical nature.

On the 20th of March, however, she became decidedly worse; she complained of severe pain in the throat, and an utter inability to swallow any solid food; the jaws could not be separated but with the greatest difficulty. For the next three days, she continued in nearly the same state; but, on the evening of the 23rd, the face and neck became suddenly emphysematous. Every time that she cried, the distention became more considerable. Next day, it had extended over both arms, the chest and abdomen; several scarifications were made in different parts, but the air was found to accumulate as quickly as it escaped. On the evening of the 25th she died.

Dissection.—No lesion could be detected at any point of the lungs; but on examining the larynx and trachea, a minute ulcerated opening was observed in the right ventricle, immediately below the vocal chord. Four or five superficial ulcers also were found on the pharynx.

Might not the operation of tracheotomy have been useful in such a case? The difficulty is in diagnosticating the seat of the rupture, whence the air has escaped into the cellular tissue.—*Gazette Medicale*.

ON THE DISEASES INDUCED BY MERCURY.

Dr. Dieterich, of Munich, has published a lengthened work on the numerous forms of mercurial disease, in which he treats at length of all the maladies which are, or are said to be, induced by an excessive or imprudent use of this mineral—as hydrargyria or mercurial fever, salivation, pancreatic pytalism, diabetes, hydrosis or excessive perspiration, various exanthemata, as eczema, herpes, miliria, &c. different forms of ophthalmia, angina, periostitis, enlargement of the lymphatic and also of the parenchymatous glands, ulceration of the mucous membranes, neuralgia, asthma, tremors, paralysis, and several other diseases, including a peculiar form of cachexia.

We have no intention of following our worthy author through his somewhat lengthy lucubrations. We shall select only a few excerpts.

In the *treatment* of *salivation* he recommends, besides the use of gentle aperients, sudorifics and cooling astringent gargles, the internal administration of iodine and creosote, both of which remedies have, he thinks, a marked effect in giving tone to the weakened salivary glands. The formula in which he prescribes the latter medicine is as follows:—

R. Olei Creosoti ʒss.

Pulv. Lycopodii sij. Misce.

Divide into sixty pills, of which three are to be taken twice a day at first, and the dose to be gradually raised to five three times in twenty-four hours.

The following are said to be the symptoms, &c. of *Mercurial affection of the Pancreas*.

“The pancreatic mercurial pytalism, or alvine sialorrhœa, has hitherto been generally confounded with the mercurial diarrhœa, which often accompanies it: it may, however, exist alone. It is indicated by a pain in the left hypochon-

drium which gradually extends towards the epigastric region, by unpleasant eructations, and a purging of white or greenish serous frothy matters. The eyes are languid, the face is pale, and the tongue dry; there is a most unpleasant, often metallic, taste in the mouth; the thirst is great, the skin cold, and the pulse small and rapid; subsequently, the colicky pains become more severe, and the region of the pancreas is the seat of a burning pain, increased by the slightest pressure, &c. &c. The best treatment for the relief of these symptoms is to cause a derivation to the surface of the skin by the use of hot baths and epispastics, and to soothe the local suffering by administering some opiate preparation. Subsequently the use of mild astringents, as calumba, or the Peruvian balsam, is decidedly useful.

The acetate of lead promises to be of considerable benefit: and so does iodine, provided no inflammatory symptoms be present. Tonic and analeptic medicines will be required to restore the general health."

Mercurial Miliaria is described to be a much more serious disease than is generally imagined.

..... "This form of miliary eruption is connected with a striking disturbance of the nervous system. An imperfect pyrexia, attended with a most distressing sense of inward anxiety, and sometimes with more alarming symptoms, such as great restlessness, delirium, and even convulsions, precede its appearance. The pulse is usually small, soft and compressible; the urine is very pale; and the skin is bedewed with a faint-smelling perspiration.

Often the eruption disappears for a time and then returns; and sometimes this alternate retrocession and re-appearance take place repeatedly. This form of mercurialism usually terminates fatally; death being attributable either to an extreme exhaustion of the nervous energies, or to a dangerous pulmonary congestion being induced during the retrocession of the eruption. The treatment of such a case should consist in endeavouring to cause a derivation of the morbid action to the skin, in counteracting the alteration of the blood, and in relieving the nervous system."

Mercurial Ulcers. "These usually form on the mucous membrane of the mouth or nose. There is observed a dark red or livid spot, which becomes white, then ulcerates and discharges at first a thickish grey-coloured sanies, and afterwards a thin ichor, giving to the mouth a fætid smell which is easily recognised.

The ulcer gradually enlarges, creeping along the gums and inner surface of the cheek; it almost always gains more in extent of surface than of depth. It bleeds upon the slightest touch, and the pain is often most excruciating when any thing is applied to it. Sometimes we observe that a distinctly venereal sore changes its nature, and assumes the mercurial character. When such is the case, it becomes first encircled with a livid circle; the edges swell; small blood-vessels are often seen creeping along its surface; and the purulent discharge becomes of a thinner consistence.

Whenever such a change takes place, the use of mercury should be at once discontinued; opiate and mucilaginous applications are best at first, and subsequently aromatic fomentations and gargles; steel, mineral acids, &c. will be required to repair the health of the patient."

..... "*Mercurial Neuralgia* is usually erratic, and not fixed in one part; sometimes it shifts about along the course of one nerve, and at other times it passes quickly from one nerve to another. It has distinct, but generally irregular, periods of intermission. The pain is always aggravated in damp weather, and by the application of wet or moisture to the affected part; and the patient finds himself easier in warm dry weather and in bed.

It would seem that this form of neuralgia is very much affected by the electrical conditions of the atmosphere.

By far the best remedies are sedatives, and ferruginous preparations.".....
—*Journal des Connois. Med. Chir. Juillet.*

ON THE SEAT OF GONORRHOEA IN WOMEN.

In the last Number of the *Medico-Chirurgical Review*, page 207, there is a notice of M. Gibert's opinions on this subject. He maintains that "the seat of election of the disease in women, to use his own phrase, is the meatus urinarius, as in man; and that in the majority of cases the vagina is little, if at all affected, but that the cervix uteri very generally is so when the disease continues."

Although the correctness of these statements may be questioned by many, it is admitted by all the best writers on gonorrhœa in women, that the chief seat of the discharge varies a good deal in different cases.

Old Astruc described four forms of the disease.... "The *first* occupies the *prostate*, which in women embraces the urethra and opens into the vulva under the clitoris on each side of the urethral orifice; the *second* affects the glands of Cowper, situated in the perineum near the anus, which open at the side of the carunculæ myrtiformes; the *third* affects the botryform glands on the surface of the vagina (vaginitis); and the *fourth* the cells on the surface of the urethra (urethritis)."

Bosquillon also, the translator of B. Bell's work on the venereal disease, admits four varieties of the disease, which he says is—1, either limited to the inferior part of the vagina;—2, or is seated in the mucous glands which surround the orifice of the urethra, and whose excretory ducts open on the membranous plane which extends from the clitoris to the superior arch of the vaginal opening—3, or affects the urethra itself;—or 4, the numerous glands with which the larger and smaller labia are supplied.

M. Ricord, while he admits that he has not been able to discover any exact relation between the special nature and the particular seat of the disease, says that "whatever may be the cause of the discharge, the vulva, the urethra, the vagina, and the uterus, may be either separately or simultaneously affected."

It may be useful to offer a very few remarks upon these four forms—viz. *urethritis*, *vulvitis*, *vaginitis*, and *uteritis*—which, be it remembered, are often co-existent in the same case, but which occasionally are observed separate and uncombined.

Blenorrhagia Urethralis (Urethritis)—Much difference of opinion has existed among authors as to the frequency of this form. Swediaur says that it is only the orifice of the canal which is inflamed in gonorrhœa, and tells us that he had never seen a single case in which the urethra was the seat of the disease. B. Bell however admits that the discharge sometimes comes from the canal of the urethra. Bosquillon has seen cases in which a urethritis continued a long time without any cotemporaneous affection of the vagina..... "It is not uncommon to observe this form of gonorrhœa engender an inflammation of the vagina." M. Cullerier however seems to be of a different opinion: according to him, by far the most frequent seat of the discharge is the vagina, and the pus, which seems to come from the urethra, is only deposited on its surface.

M. Ph. Boyer, although he admits that in *all cases* the urethra is affected, says that as the chief phenomena take place in the vagina, in consequence of its extensive surface, and as the inflammation of the urethra is observed only in the early stage, he prefers the term *vaginitis*, to that of *urethro-vaginitis*, to denominate the disease.

On the other hand, M. Ricord tells us, as the result of his experience, that urethritis is so frequent, that he should calculate it to be present in eight out of every twelve cases of gonorrhœa in women caused by impure connexion.

This statement is certainly not warranted by our own observations. We should rather say that it is only in rare and exceptional cases that urethritis occurs primarily and independently of any affection of the vagina and the other neighbouring structures; and that these parts are very frequently the seat of the disease, while the urethra is little, if at all, affected.

When the urethra in women is inflamed, the ardor urinæ is often more severe than it is usually in men, and the bladder is apt to be very soon affected in consequence, no doubt, of the shortness of the urinary canal in the former.

Blenorrhagia Vulvaris. (Vulvitis).—Of all the forms of the disease, this is attended with most suffering: hence, whenever a woman complains of severe pain in the parts, dreads the passage of the urine, and walks with difficulty and distress, we may be sure, before examining her, that the blenorrhagia is seated in the vulva. It would seem to be the case sometimes, according to the experience of John Hunter and others, that all the symptoms of vulvar blenorrhagia may be present, and yet the parts, although tender on the slightest pressure, do not exhibit, on examination, the usual appearances of inflammation. The discharge is occasionally so very acrid that it excoriates not only the external genital organs, but also the inside of the thighs, if it come in contact with them. This is most frequently observed when there are numerous flat tubercles on the vulva—a very common complication of this form of blenorrhagia.

When the inflammation of the vulva is intense, it is apt to become deep-seated and œdematous. An abscess sometimes forms in the substance of the exterior or interior labia, and is apt to leave a most troublesome fistula. The carunculous opening of the urethra is generally inflamed in all cases of vulvitis; but its canal is not necessarily affected. The same may be said in relation to the vagina.

The blenorrhagia of children and of young girls, who have never been exposed to any sexual contagion, is always *vulvar*, and seldom extends inwards, either along the urethra or vagina. We may remark that a very obstinate form of the disease is apt to be induced by onanism.

Blenorrhagia Vaginalis (Vaginitis).—This is certainly one of the most common forms of the disease in females.

In certain cases—and this circumstance deserves especial notice—the inflammation does not affect the outer portion of the canal, but only its upper or interior half. We must not, therefore, conclude in any case that there is no vaginitis, merely because the external genital parts are not at all inflamed. It has been, no doubt, in cases of this sort that Hunter has seen the disease communicated to men by patients, who did not exhibit the slightest outward mark of being infected.

No form of the disease is so prone to pass into the chronic state, as the vaginal: in spite of the most judicious treatment it will often prove most obstinate, and last for many months. In a vast number of the cases discharged from a hospital as cured, the disease returns soon after, and thus the infection is more and more extensively propagated.

Blenorrhagia Uterina (Uteritis Colli).—When the disease affects the uterus, it is always limited to the neck of the organ. The inflammation is usually superficial, and seldom produces much tumefaction of the part. Writers differ a good deal as to whether the cervix is generally more sensitive than in health, or not:—some say one thing, and some another. The exudation from its sur-

face is usually very viscid; it is either nearly transparent, or it is opaque and puriform.

The disease is apt to be especially obstinate during pregnancy, and often will resist every remedy that is tried, until after delivery takes place.—*Journal des Connoiss. Medicales.*

TREATMENT OF GONORRHEA WITH CUBEBS AND ALUM.

A correspondent in the *Journal des Connoissances Medicales* recommends very highly a combination of powdered cubebs and alum in the treatment of gonorrhœa, and adduces several cases in illustration of its efficacy. The formula, which he uses, is the following:—two ounces of cubebs and half an ounce of powdered alum are to be mixed well together and divided into nine doses, of which one is to be taken three times in the course of twenty-four hours.

A cure is said to be usually effected in from six to eight days.

Remark.—It is more than probable that alum has not been used in cases of gonorrhœa so much as it deserves to be. That the salt is rapidly absorbed into the system, and is eliminated, in a great measure, by the urine, appears from numerous experiments.

APHORISMS OF PRACTICAL SURGERY, FROM DUPUYTREN'S LECTURES.

Dr. Bigal, a pupil of the late Surgical *Chef* of France from the year 1818 to 1822, has published a series of aphorisms drawn from the lectures delivered by him at the Hôtel Dieu. They amount to ninety; we shall select what seem to us to be the most valuable.

1. When the tibia and fibula are fractured at the same time, the seat of the fractures of the two bones is never at the same point.

2. The fracture of the upper part of the fibula is always a direct fracture, and is never produced by a *contre-coup*, as Pouteau has asserted. The patients may be able to walk about immediately after the accident. It differs from fracture of the lower part of the bone, both in its producing cause, in the absence of displacement of the fragments, and, lastly, in its mode of treatment, as nothing is required for the cure but rest.

3. Fracture of the lower end of the radius is often mistaken for luxation of the carpus backwards, and the true nature of the accident is not discovered during the formation of the callus. It is then found that the carpus projects backwards, and the end of the radius forwards; that the extremity of the ulna projects towards the inner side of the fore-arm; that there is a sinking in of the radius, as if it had been cleft with a hatchet; and that the inter-osseous space, so necessary to the movements of rotation, is effaced.

4. Surgeons are very apt to commit mistakes in their diagnosis of the different fractures to which the fore-arm is liable; and yet it is most necessary for the judicious treatment of each, to have formed an accurate opinion of what accident has taken place. The most frequent fracture of the fore-arm is that of the radius alone; next that of the two bones together; and lastly, that of the ulna alone. In the treatment of fractures of the fore-arm, it is always proper to place two graduated compresses, one on the palmar and the other on the dorsal surface of the limb, and also two splints, and a roller to be passed circularly round; this bandage has the advantage of keeping the two bones apart and of maintaining the inter-osseous space.

5. A fracture of the patella is never united by a perfectly formed callus within eighty days or so. The provisional callus, which exists at the end of about thirty days in other fractures, is not sufficient here.

6. What renders the consolidation of fractures of the patella difficult, is that the fibrous tissue, which is necessary to the formation of the definitive callus, exists on the anterior surface only, and not on the posterior surface, of this bone. The neck of the thigh-bone is nearly in the same condition.

7. Whenever, after forty or fifty days of the treatment of a fracture, the callus becomes painful, we have reason to fear that it either has given way, or is about to give way, and that the limb will become deformed.

8. Hæmorrhage from the ear, accompanied with coma, almost invariably indicates a fracture of the base of the skull.

9. Dislocation of the phalanges are usually very difficult to be reduced; much more so than those of large joints. The cause of this may be, that the lateral ligaments remain entire; but Dupuytren was of opinion that it was attributable chiefly to the dislacement of the tendons, and their escape from the grooves in which they play.

10. There is one sort of luxation of the shoulder, which is exceedingly difficult of reduction; viz. that in which the head of the humerus is directed inwards and upwards, and which is usually occasioned by a fall down a staircase. The displacement is to a considerable extent; the head of the bone touching the clavicle, and being situated above the level of the coracoid process.

Dupuytren determined by numerous experiments on the dead body that the main obstacle to the reduction is that the beak of this process is often entangled in the substance of some tendon or muscle; when such is the case, no mechanical effort can overcome the resistance without danger.

10. Various accidents may arise from falling with force upon the feet; as, for example, fracture of the heads of several of the metatarsal bones, fracture of the os calcis, rupture of the vault of the foot in consequence of the ligaments being lacerated, luxation of the astragalus, and comminuted fracture of the tarsal extremities of the tibia and fibula.

11. No disease is more difficult of cure than paralysis of the arm induced by dislocation of the humerus. The paralysis seems to arise from the stretching, compression, and perhaps also partial rupture of the nerves, which form the brachial plexus. Often no remedial means are of any avail.

12. Congenital ruptures present this peculiarity, that the seat of their strangulation is most frequently in the neck of the herniary sac, and not at the ring. Wilmer has made this remark; and Alanson also has observed, that almost all the cases, in which the stricture is situated in the neck of the sac, are cases of congenital hernia.

13. The strangulation at the orifice of the herniary sac is very common, whereas it rarely takes place at the orifice of the ring;—this opinion is not shared by all authors on the subject. (Indeed the very opposite doctrine is maintained, we believe, by many surgeons. Were Dupuytren right, the operation of dividing the ring without opening the sac would be almost invariably fruitless.—*Rev.*)

14. Whenever vomiting ceases during the inflammation occurring in cases of hernia, we may be almost assured that the intestine has become gangrenous.

15. There are few patients so apathetic and *insoucians* as those affected with diseases of the urinary passages. (We should not have thought that; urinary and rectal diseases have usually appeared to us to give rise to more than ordinary anxiety and depression. This is often the case in renal disease.—*Rev.*)

16. Few diseases are more difficult to cure *radically* than a very tight (*tres grande*) stricture of the urethra. For, after the canal has been widened by the prolonged use of bougies, there is always a great tendency to a relapse of the

disease. It is then that cauterisation becomes useful, because we thus obtain a cicatrix moulded upon the bougie.

17. There are cases of stricture, &c. in which the keeping of an instrument in the urethra, instead of being a means of cure, becomes actually an obstacle to it: Dupuytren used to cite several instances of urinary fistulæ cured by the mere withdrawal of the sound.

18. All the diseases, which proceed from contraction of the urethra, are almost invariably the result of previous attacks of gonorrhœa. The size and force of the stream of urine gradually become less and less; then it escapes only in drops, and at length there is perhaps a complete retention—a state that is usually followed either by paralysis of the bladder, or by rupture of the urethra at some point, and the effusion of the urine into the cellular substance of the perineum.

19. We frequently meet with abscesses about the anus or in the perineum in phthisical patients; and it is often dangerous under such circumstances to operate, as the thoracic symptoms are very apt to increase, when the local disease is meddled with.

20. Ulcerations situated between the toes are usually very difficult to heal; this seems to be owing to the lodgment of the discharge, the admixture of the perspirable matter with it, and the constant contact of the ulcerated surfaces.

21. Of all cases of caries, the most dangerous are those in which the sternum is affected; for, when once the spongy texture of this bone becomes diseased, very troublesome fistulæ are formed, and the patient generally sinks under the effects of the disease.

22. Caries of the crest of the os ilii is a not unfrequent cause of symptomatic abscess in the lumbar and sacral regions.

23. It is a fact of almost constant occurrence, that diseases of the upper part of the thigh are felt, so to speak, at the knee, and also that those of the upper part of the humerus are felt at the elbow.

24. After amputation of the limbs, affections of the chest often supervene. Whenever we have cause to apprehend this occurrence, we should have recourse to blisters over the chest.

25. It is a curious circumstance that, in certain individuals, after lithotomy or other great operations, an abscess is apt to be formed in the calf of the leg: we cannot form any idea how this should be; but so it is.

26. In hospitals we often observe cases in which a succession of abscesses, in almost every part of the body, takes place, without any previous local or general inflammation. Such cases surely afford a proof of a purulent diathesis of the system.

27. Ambulatory or erratic erysipelas usually terminates in the formation of abscesses. These abscesses generally form without pain, and often without the patient being at all aware of their development. Such an occurrence is too frequently the image and counterpart of what is going on in some internal part; a slow inflammatory action is set up and terminates in suppuration, without either pain, fever, or any outward symptom being manifested.

28. It is a well-known fact that all abscesses caused by small-pox exist between the periosteum and the bone, with tumefaction of the latter, and subsequent formation of a sequestrum; but, in the majority of cases, this cause produces only a swelling of the bone with denudation. It is important to distinguish these two sets of cases.

29. Syphilitic exostoses do not always disappear, although their primary cause has been entirely removed.

30. The sudden extension of the fingers, when they have been long bent, (in consequence, for example, of the contraction of the cicatrised integument after a burn,) is not unfrequently followed by gangrene. The extension should

therefore be slow and gradual; and we should avoid dividing or excising the bridle, caused by the contracted cicatrix.

31. It is not prudent to divide the frænum for phymosis during the existence of a gonorrhœal discharge, as the wound is then apt to degenerate into a troublesome ulcer.

32. In all diseases of the neck of the uterus, the posterior lip of the os tincæ is more deeply affected than the anterior one.

33. In general, in affections of the brain, the effects of purgatives on the bowels are much less powerful than usual: for example, five or six grains of tartar emetic, and several ounces of Epsom salts, will often not produce either vomiting or purging. In these cases the oleaginous purgatives, as castor oil, croton oil, &c. succeed best.

34. Hiccup, occurring in the course of diseases, is usually only a nervous complaint. Shivering is a much more dangerous symptom; it generally indicates the development of some internal mischief.

35. Patients, suffering from extensive and severe burns, have almost always a very constipated state of bowels. We should not be too anxious to remove this state, as it does not seem to give rise to any inconvenience; and, when strong purgatives are used, a most troublesome diarrhœa often ensues.

36. In the majority of cases of fatal burns, the internal surface of the stomach and of the intestinal canal is found to be highly injected. In the treatment therefore of severe injuries of this sort, the surgeon's attention should be directed to the condition of these parts.

37. Very severe burns often induce fatal tetanic symptoms.

38. Enemata with laudanum are the best means that we can employ to relieve the accidental and transitory delirium, which often accompanies surgical diseases.

39. When a cataract forms in youth, it is almost always in the membrane of the lens: whereas in old age it is the substance of the lens itself that becomes opaque.—*Journal des Connoissances Medico-Chirurgicales.*

MEMORANDA FROM M. LISFRANC'S SURGICAL CLINIQUE.

If fistulæ produce the indurations which surround them, these indurations have also the effect of keeping up the fistulæ.

In the treatment of an old callous ulcer of the leg, you will find great difficulty in effecting a cure, until you bring into a healthy condition the surrounding indurated tissues; a fistula, accompanied with such a state of parts, is still more difficult to manage.

One of our patients had a number of deep fistulæ on his left thigh, which was indurated and nearly double of its usual size: every attempt at effecting a cure had failed; and one surgeon had even proposed amputation at the hip-joint. I directed my attention to the removal of the existing engorgement; the inflammatory element was present there; I therefore employed local bleedings and emollient poultices; and, when the inflammation was dissipated, the ioduret of lead ointment was applied. Under this mode of treatment, several of the fistulæ healed up. Compression, which had formerly failed, was now resorted to with such excellent effects, that in the course of three months the patient was entirely cured. I could easily adduce a great number of other similar cases to demonstrate the utility of the principles which I have so often explained—get rid first of the local inflammation, before you use any means to induce cicatrization. If a fistula remains after all the inflammatory symptoms are removed, it is then time to direct special treatment to it; and this will always be much more certain and easy, when the ground, so to speak, is well prepared.

The inflammation induced by an incision of the tissues over any swelling is often followed by a resolution of the morbid state.

I have long since proved to the surgeon that he may with perfect safety make flaps with lardaceous tissues, provided they are neither scirrhus nor softened, and that the inflammation, which attacks them, is often sufficient to bring them into a normal condition—sometimes in the course of a few days. I had read in the writings of Ambrose Paré that that great surgeon was in the habit of treating the callosities of ulcers by scarifying them freely: and it occurred to me that this excellent precept, hitherto far too much neglected, was capable of considerable extension.

I will tell you a case which occurred to me some years ago. I had nearly dissected out a tumor, when the patient resolutely refused to permit the operation to be completed: I was therefore obliged to leave the tumor in its place, and lay the flaps of the wound down. In a few days the man left Paris, and I lost sight of him. Six months afterwards he met me; there was no longer any tumor visible, although nothing had been done since he left the hospital.

You know that ordinary hydro-sarcocele is as readily cured by puncture and injection as simple hydrocele. A patient was admitted with a transparent hydrocele, which was punctured; but no fluid escaped. I therefore incised the tumor; the contents of the sac were of a gelatinous consistence, and were contained in numerous small cells; the testicle was much enlarged and extremely hard, but smooth:—should it be removed?—I thought not. In the evening I visited my patient; a very violent inflammation had already set in; forty leeches were therefore applied above the wound, and when they ceased bleeding, poultices were applied. Next day the inflammation was much abated; thirty more leeches were ordered. In the course of a day or two, the swelling of the testicle began to diminish; the subsidence gradually continued for several weeks, until at length the organ resumed its healthy size: the wound healed, and the patient was cured.

Encysted serous tumor in the neck; extirpation after being laid open by incision.

The tumor extended from the mastoid process four inches down the neck, and was situated over the course of the large bloodvessels. I first opened the cyst along its entire length, and then proceeded to dissect it from its adhesions: it was thick, hard, and very resisting. Now when the parietes of an encysted tumor are so,—a circumstance which is readily ascertained when it is fairly exposed—I advise you, contrary indeed to the instructions in surgical books, to lay it freely open, before extirpating it. You will find this easier than if you attempt to dissect it out entire. A well known fact may teach you the truth of this:—cannot you dissect the peritoneum from off the abdominal muscles with greater ease when the abdominal cavity is laid open, than when it is entire? As I proceeded in the extirpation of the cyst, I found that it very firmly adhered posteriorly to the large blood-vessels of the neck. What was to be done? If left in the wound, the probability was that a troublesome fistula might supervene. I therefore ordered my assistant to seize hold of it firmly and draw it out, while I divided fibre by fibre with the greatest caution. Success followed the attempt; it was extracted entire; and ultimately the wound was healed in the course of a fortnight.—*Bulletin de Therapeutique.*

ON THE HISTORY OF THE NEW OPERATION FOR THE CURE OF SQUINTING.

Although it is admitted by all, that Professor Dieffenbach of Berlin has unquestionably the merit of having first actually performed the operation of dividing

the internal rectus muscle of the eye for the cure of squinting, it would seem that several surgeons had previously suggested and even recommended it. The following observations are communicated by M. Carron du Villards in a recent Number of the *Bulletin de Therapeutique*.

With a natural partiality for *soi-meme*, which we suppose is common to all authors, he commences by alluding to a memoir, entitled "Practical Considerations on Sanguinous Effusions into the Eye and its Appendages," and published by him in the *Gazette Medicale* for 1838. In it he has reported the case of a gentleman, who in consequence of a gun-shot wound of the eye by which one of its oblique muscles was divided, was cured of a squint which had existed for many years.

"Here," says he, "as in the case of the operation for excision of the lower jaw, a gun-shot wound had opened a new path to operative surgery. Without doubt if at this period I had made public some facts which I then communicated to M. Scoutetten, head surgeon of the military hospital at Metz, I should have reconciled the inventors of the new operation (*j'aurais mis les inventeurs d'accord*).

In the *Annales d'Oculiste* for June (1838, we suppose) we meet with the following sentence: "It is now some time since an Italian physician suggested that squinting, attributable to the spasmodic contraction of one of the straight muscles of the eye-ball, might probably be cured by the division of the contracted muscle." M. Cunier, the Editor of the *Annales*, received this suggestion in 1837, at Montpellier from Dr. Baschiere, who wished him at that time to perform the operation on a relative of his own: but here the affair dropped.

M. Jules Guerin also, in the same year also, 1838, seems to have performed several experiments in the presence of M. Sentin and others: "he fell however adds M. Carron, "into an error very common among scientific men; to wit, that of *thinking aloud*, before having taken the necessary steps to secure his property to himself." (Is this remark intended as a reproach against M. Sentin for mal-honneteté?)

In 1838, M. Stromeyer of Hanover published the following remarks in his work on the cure of deformities.

"Various trials on the dead body lead me to recommend the following operation for the cure of squinting. Let the sound eye be closed, and the affected one be directed as much as possible outwards. Lay hold of the conjunctiva with forceps, and divide it at the inner canthus with a cataract knife. If the eye be drawn sufficiently outwards, the tendon of the internal rectus will be seen; a probe may then be passed under it, and with a pair of curved scissors it may be divided across without difficulty. The sound eye should be kept closed for some time, to enable its fellow, on which the operation has been performed, to recover its normal movements.

Orthopædic surgery shews that it is sufficient to divide a muscle to remove any spasmodic contraction with which it may be affected, and to enable it to resume its healthy functions; and as to the operation which we recommend, it cannot be attended with more danger than follows the extirpation of an encysted tumor of the eye-ball."

When Dieffenbach first made known the results of his operation, M. Guerin, to whom we have already alluded, addressed to the Academy of Medicine at Paris a letter, in which he stated that for a length of time he had publicly professed his conviction that squinting was owing to a retraction of one or more of the muscles of the eye, and had distinctly announced his intentions of extending the same principle of treatment which he had for many years applied for the removal of deformities in other parts of the body. So convinced was he of the justness of his views that, to one of the most distinguished members of the academy, he had said that *squinting is the club-foot of the eye*. M. Guerin admits that one of the causes which had induced him to defer putting his designs into

practice, was the fear of inflammation supervening in an organ, so near to the brain as the eye is.

As an historical document, the following extract from a letter published in the *Annales d'Oculiste* deserves to be given. . . . "Four years ago, M. Gensoul, ex-surgeon in chief of the Hôtel Dieu at Lyons, suggested the practice of ocular myotomy in a case of squinting; this point in surgery occupied his attention for a long time. The proposal was no secret; it was known to all the pupils of the hospital. I have myself seen M. Gensoul perform the operation several times on the dead body, and have heard him frequently allude to the subject. In the course of the year 1838, M. Gensoul visited Germany, and conversed with the surgeons of Berlin, and with M. Dieffenbach among the rest, on the subject, of myotomy for the cure of squinting."

But passing from the history of the operation to that of its success, it would seem that it has been much more fortunate in some countries than in others. Dieffenbach tells us that he has succeeded in every case; and M. Von Roosbroeck of —, in Belgium, boasts of having operated on 180 persons with complete success. In France, we must confess that we have been much less fortunate; we have given a fair trial to it, says M. Carron du Villards; but hitherto no surgeon of good faith will pronounce the operation to be "un moyen curatif constant." M. Roux has failed in every case that he has tried it; M. Velpeau has succeeded only in two out of seven cases; M. Guérin himself in one out of four; and of five cases in which I (M. Carron) have operated, one only proved quite successful, another partially so, and in the other three no benefit whatever was obtained.

The dexterity of our surgeons will not be questioned by any one; and we should therefore very much like to be furnished with a key to the extraordinary success of M. Roosbroeck, and some other foreign surgeons. It has always appeared to us to be a heresy in surgery to apply a single and exclusive practice to the treatment of a disease of which there are numerous and different forms. Certainly, if squinting was invariably owing to the spasmodic contraction of one or more of the muscles of the eye, the division of the affected muscle or muscles might be followed with success in the majority of cases. But unfortunately such is not so, and the deformity is often attributable to conditions in which such an operation is utterly inapplicable. The opinion of M. Venier seems to us to be quite correct—that the only form of squinting, which we can reasonably hope to remove by the operation, is that which is permanent, and is caused by the excess of action or the deficiency in the length of the muscle, in the direction of which the deviation is present.

But whether this be correct or not, every one will surely admit that we must have more time and a larger experience before we can solve many questions relative to the operative treatment of squinting—questions which have been entirely overlooked in the recent competition among surgeons who should be the first to operate. M. Carron closes his remarks by alluding to a very interesting case which occurred some years ago in the practice of M. Lisfranc. This celebrated operator found it necessary to dissect deeply into the orbit at the inner canthus for the purpose of extirpating a cancerous tumor imbedded there; the rectus muscle was divided, and the effect of this was that the eye ball was immediately drawn outwards. When, however, the wound was healed, the divided muscle seems to have re-united; for the eye recovered its normal axis.—*Bulletin de Therapeutique for August 1840.*

Remarks.—Some of the preceding observations are well deserving the attention of medical men: they may possibly check the somewhat vehement readiness, which has prevailed in this country during the last twelve months, to operate in every case of squinting indiscriminately: it has been quite a *furor*. We should like now to see a faithful table of the results of a considerable number of the

operations performed six months ago. In how many of the cases has the cure of the deformity been permanent?—*Rev.*

OBSERVATIONS ON SQUINTING, AND THE NEW OPERATION FOR ITS RELIEF.

We find, as might have been expected, a number of communications on this, at present, popular subject in the French Journals; but certainly there does not appear to be the same unanimity as to the advantages of the new operation for the relief of the infirmity among their writers, as prevails among the numerous correspondents on the subject in the English periodicals. We rather fear that our countrymen have been somewhat premature in their announcements of the almost uniform success which has attended the division of the internal rectus muscles in the many hundred cases which have already been reported. Have the cures been really permanent? That is the important question; for it may readily be supposed that the eye may recover at the moment, and for some time after the operation, a straight direction; but that the former obliquity may return when the cicatrisation has been completely effected. The question has been examined with considerable ability by M. Sedillot, in a paper published in the 109th number of the *Gazette des Hôpitaux*.

.....“Under the general term of squinting,” says he, “there are various forms of deviations of the eyeball described. Thus the eye may be drawn inwards (*strabismus convergens*), or outwards, (*divergens*), or upwards, (*sursum vergens*), or the axis of one eye may be directed upwards and that of the other downwards, (*s. horrendus*).”

All these varieties of squinting may be either permanent or momentary, and also either congenital or acquired. The same eye has been observed to squint in one direction for some time, and subsequently to squint in the opposite direction. In the majority of cases, the affected eye resumes its rectitude whenever the sound one is closed; but occasionally this is not the case, and the squint remains permanent under all circumstances. The sight of this distorted eye is usually more weak than that of its fellow. Now it is important to keep in mind these several circumstances in considering the new operation which has attracted so much attention of late for the cure of this infirmity.”

It was the opinion of Buffon that squinting was the effect of an inequality in the visual powers of the two eyes, and that any attempts to remedy the evil must be based on the re-establishment of a perfect equality.

The person, he said, to avoid seeing objects double—which will necessarily be the case if he looks at them with both eyes, the axes of which diverge—gets into the habit of looking at them steadfastly with one eye only, and tries to turn the other one away. If this be persisted in, a confirmed squint will probably be the result. During the progress of amaurosis some patients begin to squint, in consequence of the confusion of the sight arising from the unequal powers of the two eyes.

“But we must not attach too much importance,” says M. Sedillot, “to these observations; for nothing is more common than to meet with persons, whose eyes are so different that they require one of the glasses of their spectacles to be convex and the other to be concave; and yet these persons do not squint when they lay their spectacles aside. Again, how often does it happen that a person becomes almost completely amaurotic in one eye, without having been at all aware of any gradual decay of its vision. We may, therefore, fairly conclude, that squinting is not owing solely to an inequality in the visual powers of the two eyes, but depends, in a great number of cases at least, on some other cause. May we not suppose that the feebleness of the distorted eye

is referrible to a defect of action, and that, as soon as the organ is no longer kept withdrawn from the visual rays, it will gradually recover its normal functions !”

M. Sedillot proceeds to offer some comments on the operation of dividing one or more of the muscles of the eyeball for the relief of the infirmity in question.

It has, with considerable shew of reasoning, been argued that, unless the muscles be permanently contracted, so that the squint continues when the sound eye is closed, no good can be expected from their mere division. What advantage, it has been said, can result from lengthening a muscle which has already its normal length ?

But we must not, says M. Sedillot, allow ourselves to be too much influenced by this objection, although we admit that it has considerable force. It requires but the least degree of predominance of action in one muscle over another to draw the organ to one side ; and, although the contraction be altogether of a nervous or spasmodic nature, and be not at all connected with any structural change of the contracted muscles, yet if continued for a length of time, the external muscle, by being kept in a state of forced extension will gradually lose its energy, and becomes at length unable to resist, by any voluntary action, its antagonist and the obstacles to its movements, which will be established in the surrounding parts.

“ Were we,” says M. Sedillot, “ to name the cases in which theory points out the best chances of success, we should certainly regard the permanent squint, unaccompanied however with any inequality in the vision, as the most favourable condition for performing the operation ; than the ordinary squint, in which the effected eye recovers its straightness when its fellow is closed ; and last of all, that form in which the visual powers of the affected eye are more or less altered.”

There cannot be a doubt but that many of the alleged cures from the performance of the operation have been prematurely reported ; in not a few the squinting has returned within a longer or shorter time afterwards. M. Guerin himself, so zealous an advocate of the operation, acknowledges that the section of the internal rectus muscle alone is often not sufficient for the removal or the deformity, and that it is necessary to divide, at the same time, the oblique muscles, which are, it is known, in part adductors of the eyeball, and which, therefore, will sometimes keep it drawn inwards, even after the internal rectus has been divided.

It is certainly rather surprising that Dieffenbach, of Berlin, the first who performed the operation, and also M. Phillips, of Liege, both of whom have operated in a vast number of cases with an almost uniformly perfect success, according to their own reports, have not made any allusion to the necessity of ever dividing the oblique muscles. Other surgeons have been far less fortunate ; indeed, MM Roux and Velpeau, high authorities in operative surgery, seem to have met with so little success in their practice, that they do not hesitate to question the accuracy of many of the reports which have been given to the public. I myself, says M. Sedillot, know of a considerable number of cases, in which the operation has failed of curing the squint, and I have heard M. Guerin state, in his clinical conferences, that the section of the internal rectus muscle alone is not, in every case, sufficient to rectify the deformity, and that it is then necessary to divide one or both of the oblique muscles, which are, as already stated, in part adductors of the eyeball. If such be the case, the operation is far from being always so simple as many of its advocates have represented ; and we cannot but feel surprised that Dieffenbach and Phillips should not have alluded to this circumstance.

Perhaps the following remarks, from the second memoir communicated by the former of these surgeons to the Royal Academy of Medicine, may be acceptable to the reader.

1. In persons who squint with one eye only, and this inwardly, the pupil is very often observed to be dilated, while that of the sound eye is considerably contracted. When this is the case, vision with the two eyes is double; and sometimes it is also double in the distorted eye itself.

2. When the internal rectus muscle is divided, the pupil becomes contracted; and should the contraction be equal to that of the pupil of the other eye, the vision is regular. But, on the contrary, if the two pupils are unequally contracted, the vision remains or it becomes double; this state being observed for the first two or three weeks after the operation, and afterwards gradually ceasing.

3. The tendon of the superior oblique muscle having been divided in several cases, where the eye was drawn upwards and inwards, the eyeball was observed to fall and become placed in the middle of the opening of the eyelids.

4. When the squint is divergent or outwards, the section of the external rectus muscle is sufficient usually to remove the deformity; but it not unfrequently happens that the eyeball becomes drawn inwards, and then it is necessary to divide the internal muscle also before its straight direction is completely restored.

5. In cases of squinting upwards, the superior rectus muscle has been divided; but this operation is of much more difficult execution.—*Gazette des Hôpitaux*.

CONSIDERATIONS ON THE RADICAL CURE OF HERNIE.

For several years past, the attention of surgeons has been directed to discover a safe and effectual method of obtaining a radical cure of reducible herniæ. It is almost unnecessary to state that all the proposals to effect this most desirable object by the mere external application of astringents and such like remedies have proved on trial quite nugatory, and that one or two of the operations which have been suggested are not without considerable danger. Castration has been more than once performed by educated surgeons as well as by several noted charlatans; but surely, apart from the circumstance of this operation not always proving successful, few patients will submit to such a mutilation. The cauterisation of the coverings of the sac, either with the hot iron or with strong chemical escharotics, has been repeatedly tried; but there are very strong objections to this method; for not only has it caused death in some instances, and the loss of the testicle in others, but it has also completely failed in other instances in preventing the subsequent descent of the hernia. The same remarks are applicable to the proposals, which have been made at different times to use ligatures or sutures in various ways to the tumor. Then the method by incision, as in the operation for strangulated hernia, found several advocates, when M. Petit had the misfortune to find that it is sometimes followed with fatal consequences, independently of its being ineffectual. By associating with the incision the dissection and excision of the sac, the operation was rendered considerably more dangerous and not much more sure. There were certainly greater chances of success by the plan proposed by some surgeons, to fix in the inguinal canal, in the form of a plug, either a portion of the sac previously dissected, or a portion of the omentum, or the testicle itself; but, besides that the dissection of the sac is a tedious and painful operation, and one not altogether free of danger; besides that the testicle brought up to the ring is not easily secured in its place there and might become the seat of intense suffering; besides that the omentum, if artificially fixed, would certainly in most cases give rise to severe pains and probably enteric disease, we know that even after such operations we cannot count upon a radical cure of the hernia. Still prosecuting their re-

searches, other surgeons proposed to cauterise or scarify the inner surface of the sac in the canal; but, as for this purpose all the envelopes of the sac must be previously exposed and divided, it is scarcely necessary to say that such proceedings must be accompanied with no inconsiderable danger.

Things were in this state twelve or fifteen years ago, when, in spite of the anathemas of Sabatier, Dessault and Boyer against all attempts to effect a radical cure of hernia by means of operation, several surgeons again began to make some experiments on this subject. Permanent compression, kept up for several months successively, was again fairly tried, and several cases were published in which a cure seemed to be, and probably was, effected by the adoption of this means along with the local application of astringent washes and confinement to the horizontal posture. But this plan is too tedious and troublesome ever to be generally used.

A distinguished surgeon of Paris, M. Belmas, devised a plan to obliterate the herniary sac without leaving any wound in the integuments. He proposed to introduce, by means of a canula in form of a trocar, a small portion of gold-beater's skin into the serous tunic of the hernia, which was to be left there so as to excite an exudation of plastic lymph, and thus cause the *trajet* of the hernia to be firmly plugged up. Although a few cures have been effected by this mode of procedure, M. Belmas has more recently substituted for the gold beater's skin, which he used in his first experiments, minute filaments of animal matter, which he inserts and deposits in the root of the herniary sac by means of a small larding-pin (*laridoire*).

Mr. Jameson, an American surgeon, has reported a case in which he effected a cure in the following manner. The herniary envelopes being divided, as in the operation for strangulated bowel, he cut a portion of the integuments in the form of the blade of a lancet, and folded it back upon itself, securing it in the ring so as to plug up its *trajet*. We are not aware that this plan has ever been tried in France; it may indeed succeed, but it cannot be altogether free from danger.

M. Gerdy has proposed another method, which is certainly more safe, but is unfortunately much more uncertain. It consists in pushing up along the inguinal canal a fold of the integuments of the scrotum, in the form of the finger of a glove, and then securing this fold in its new situation by transfixing it with a strong thread by means of a needle contrived for the purpose. This operation has now been performed a good many times; but not only has it failed in several instances, but it has even been followed by fatal consequences in more than one case.

As to the proposal of M. Bonnet of Lyons to transfix the sac with several needles to be left in for some days, and that of M. Mayor to substitute strong threads, like a seton, in place of the needles, M. Velpeau is of opinion, that in neither of these ways can we hope to effect more than a partial closure of the sac, and therefore that we cannot come upon a radical cure of the hernia.

In 1836, M. Velpeau tried the effect of iodine injections into the sac of a reducible hernia, and repeated the experiment on other two patients; but the difficulty of reaching the sac with certainty, and the unsatisfactory results obtained in these three cases, are serious objections to the practice; and M. Velpeau himself, in the last edition (1839) of his work, alludes to it without approbation.

During the course of last year, he tried another method in two cases. This consisted of three acts or elements: a subcutaneous *incision* on the principles so ably insisted upon by M. Guerin in the surgical treatment of so many diseases, *scarification* of the interior of the sac and especially of its internal aperture, and lastly, *compression* of the entire length of the inguinal canal. The left forefinger being first pushed into the external inguinal aperture to the depth of half an inch or so, a bistoury is slid along the nail and inserted through the in-

teguments in a direction backwards and outwards; the finger is then withdrawn and the cutting edge of the instrument turned against the iliac parietes of the abdomen, and in such a manner as to make numerous scarifications in various directions, without endangering the epigastric artery: the bistoury is then withdrawn by the small entrance-wound, and the operation is completed.

In two cases M. Velpeau has succeeded in effecting what he has reason to believe will prove a radical cure of the hernia by adopting this practice; but further experience alone can determine whether it will be generally useful.—*Bulletin de Therapeutique.*

A NEW METHOD OF INDUCING ARTIFICIAL LABOUR.

Dr. Meissner of Leipsic, whose practice has been immense for the last 20 years, objects to the plans which have hitherto been in use for the purpose of inducing premature labour, on the grounds of their insufficiency in some cases, and of their troublesome and even dangerous effects in others. The puncture of the membranes, by giving a premature discharge to the waters, is often followed by the death of the child: the internal use of the ergot of rye in large doses also exerts a hurtful influence on the life of the fœtus; while the insertion of pieces of sponge, gradually enlarged in size, into the cervix of the uterus, is at best a very tedious process, and not unfrequently causes a troublesome irritation of the uterus.

The plan, which M. Meissner has adopted with uniform success, as well for the infant as for the mother, is the following: he punctures the membranes high up above the cervix uteri. For this purpose he uses a long curved canula which is provided with a blunt round-pointed trocar; this is cautiously introduced, the convexity turned backwards or to the concavity of the sacrum, along the forefinger of the left hand,—the patient standing and the accoucheur kneeling before her—up to the posterior part of the cervix; it is then to be passed slowly and gradually into the uterus between its parietes and the membranes of the ovum, without separating these too much from their loose attachment. When the extremity of the canula has reached to about O. 271 of a *metre* (seven or eight inches?) above the cervix, the blunt-pointed canula is to be withdrawn and a sharp-pointed one is to be introduced. Before pushing it on, the operator should endeavour to ascertain by tact whether the point of the instrument is resting on a solid or on a yielding elastic body: if on the former, it will most probably be some part of the fœtus; and then the point of the canula should be gently displaced, before the trocar is made to penetrate the membranes. The trocar is then to be withdrawn from the canula, and, when about a tablespoonful or so of the liquor amnii has escaped, it may be withdrawn also. An occasional oozing continues from the vagina, and, usually in from 24 to 48 hours after the operation, the uterine contractions come on and expel the child.

The following cases are adduced.

Case 1.—A rachitic woman had been twice delivered of a child by means of the perforator and crotchet. On her third pregnancy, Dr. Meissner resolved to induce premature labour,* according to the plan which we have now described. This was done at ten o'clock one morning, and next day at four in the afternoon labour-pains set in, and the child was delivered by nine in the evening. In consequence of the mother not being able to suckle the infant, it died a few weeks afterwards.

* The author never induces artificial labour before the thirty-sixth week of pregnancy.

(This is the only case in Dr. Meissner's practice where the child has died: he very properly remarks that children born before the full period invariably require to be suckled. To bring them up in any other way always fails.)

Case 2.—A lady, 29 years of age, and decidedly rickety, had been on three successive occasions delivered by means of embryotomy. In the 36th week of her fourth pregnancy, Dr. M. perforated the membranes high up, as recommended above: a large quantity of the waters flowed out. Four and thirty hours after the operation, the pains of labour came on; when the os uteri was well dilated, the coccyx was found to be presenting. After the lapse of another hour, the feet were extracted; the head being detained at the inlet of the pelvis, it was necessary to apply the forceps. The child was however born alive, and, being suckled by the mother, became a healthy infant.

Case 3.—The same woman became again pregnant on the following year. On the 15th November, in the 36th week of gestation, Dr. Meissner punctured the membranes very high up; during the night a quantity of water escaped; but labour pains did not come on till fifty-eight hours after the operation. These continued for five hours; and then the child was delivered without artificial assistance. It at once took to the breast, and subsequently thrived quite well.*

In the following case, the operation was performed under peculiar circumstances: it was not because there was any contraction of the usual size of the pelvis, but in consequence of the mother labouring under a severe attack of an acute disease—a new indication for inducing premature delivery by artificial means.

Case 4.—A woman, who had borne several living children, was again pregnant in 1838. When near the end of the eighth month of gestation, on the 23rd of May, she fell down stairs, and received a severe wound on the sacrum. A violent attack of inflammation of the kidneys ensued. She was bled from the arm, and a number of leeches applied to the loins, and took frequently-repeated doses of calomel.

On the 26th there was still great tenderness of the abdomen, accompanied with distress of breathing, and vomiting of whatever she swallowed: she was again bled.

Next day, the symptoms continued unrelieved. Dr. Meissner, unwilling to push the use of antiphlogistic remedies further in consequence of the pregnancy, determined to induce delivery, as he hoped that, by the distention being removed, and by the subsequent discharge of blood from the uterus, the abdominal symptoms might be greatly relieved. On the 28th, therefore, he punctured the membranes in his usual manner: in five or six hours afterwards labour-pains commenced, and rapidly became more and more violent until

* This woman again became pregnant, and Dr. M. once more induced premature labour. This time he experienced considerable difficulty, in consequence of not being able to detect with the point of the canula any elastic and yielding point of the membranes, where he could push in the trocar. At length he felt what he considered to be a safe point and made a puncture. No water, however, flowed out at first; but during the subsequent night a small quantity escaped. Labour came on eighteen hours afterwards; but, in consequence of the head being long detained, the forceps was applied, and delivery was safely effected, without any danger to either mother or child. The difficulty in the present instance was, in all probability, owing to the small quantity of the liquor amnii that existed.

delivery of a healthy child was effected. The patient soon found herself much relieved in every respect, except in the distress of breathing. A few doses, however, of opium and ipecacuan speedily set her all comfortable. She rapidly recovered, and was able to suckle the child: both ultimately did quite well.

Several other cases are reported in Dr. Meissner's memoir; but it is unnecessary to particularise any but one, in which the woman, in consequence of great deformity of the pelvis, had been already four times delivered by means of embryotomy. In her fifth pregnancy, Dr. M. resolved to induce artificial labour in the 36th week of parturition. He experienced more than usual difficulty in introducing the canula in consequence of the deformed shape of the abdomen and pelvis; the os uteri being not easily discovered per vaginam. At length it was passed up between the walls of the uterus and the membranes; but it was not possible to puncture these (the membranes) in the usual place, posteriorly, in consequence of there not being sufficient space near the vulva to press the handle of the instrument far enough back towards the sacrum. The operator was therefore obliged to seek for a point on the left side: he succeeded after a good deal of difficulty. Fourteen hours afterwards, pains commenced; but as the labour proved very tedious, the forceps were applied, and a living child was extracted.

The preceding facts cannot fail to attract the notice of all obstetricians; and we shall therefore wait to learn the results of the practice, now recommended, in the hands of different physicians. The success of Dr. Meissner is a sufficient evidence of the safety of the operation, when skilfully and cautiously performed. It is based on sound physiological principles; and, if once fairly established in practice, will redound much to the credit of the inventor. We may again repeat, that Dr. Meissner never performs it till the 36th week of gestation; that he recommends that the woman should be standing up during the operation; that he does not allow more than a spoonful or so to flow out from the canula; and that he does not employ any other means to induce the contractions of the uterus.

We are informed that another physician of Leipsic, Dr. Guntz, has already performed the operation several times, and met with the same success that has attended the practice of Dr. Meissner.—*Medicinishe Annalen, et Gazette Medicale. Fevrier, 1841.*

RESULTS OF RE-VACCINATION IN THE DEAF AND DUMB INSTITUTION OF PARIS.

The number re-vaccinated was 128—121 pupils, whose ages varied from ten to eighteen years, and four adults, servants of the institution. Of the entire number, 60 were males and 68 were females. The operation was performed from arm to arm; the vaccine lymph was abundant; and the number of punctures made in each arm varied from two to six.

In 25 of the individuals, there neither were any traces of previous vaccination on their arms, although they had no doubt been vaccinated in infancy, nor were there any marks of small pox on their face or body. (The mere absence, however, of cicatrices cannot be taken as a proof that the parties had never been vaccinated, nor had passed through variola.) Of these 25 cases, the vaccination produced no vesicles in 18; imperfect or false vesicles in four; and genuine cow-pox vesicles in three only.

Of seven individuals, who had distinct marks of small-pox on their faces,

limbs and bodies, the operation succeeded perfectly in two, and failed altogether in five of them.

In the remaining 94 cases, there were distinct cicatrices of a former vaccination, the number of these varying from one to four or six; in some, one or more cicatrices were observed on each arm, in others on one arm only.

Now of these 94 persons, ten exhibited distinct cow-pox vesicles (after the re-vaccination,) 15 imperfect or bastard vesicles, and, in the remaining 70, the operation failed in producing any effects.

If we take, therefore, the entire number of persons "all well re-vaccinated by me," says M. Meniere, the reporter, "we find that in 15 cases only out of the 128, regular cow-pox vesicles were formed over the punctures on the arms; in 20 the vesicles were imperfect or bastard; and in 93 none at all were developed. From these data it appears that the operation took effect in about *one-eighth* of the whole; in about the same proportion, *one-eighth*, in those who had never had small-pox and who exhibited no traces of vaccine cicatrices on their arms, although they had been vaccinated at some former period of life; in *one-third* of those who had had small-pox in their youth; and in about *one-tenth* of those in whom the cicatrices of a former vaccination were still distinct."

In estimating these results, it may be proper to attend to certain circumstances connected with the cases.

Of the fifteen persons in whom the re-vaccination took complete effect, ten were under thirteen years of age, and the other five were a few years older. In the two young girls, in whom it succeeded after previous small-pox, (which had left numerous and most distinct traces on the face and elsewhere) five years had elapsed in one case, and seven in the other, since the date of the attack. Among the pupils who had been vaccinated in their infancy, and in whom the re-vaccination took complete effect, two were twelve years, and the third was fourteen years old.

From these data, we may infer that the preservative or counteracting power of small-pox does not exceed that of cow-pox; since, under very similar circumstances, those who had passed through the two diseases were submitted to the same contagious influence and experienced nearly the same results.

But we are unwilling to draw any general conclusions from the preceding report; as we are well aware that experiments must be made on a much more extensive scale before we can safely do so.

In conclusion, we may state, that several infants were vaccinated for the first time from the vesicles on the arms of those in whom the second operation took effect, and that the virus thus obtained seemed to be perfectly genuine and active.—*Journal des Connoiss. Med. Chirurg. Septembre.*

FRENCH OFFICIAL DOCUMENT ON RE-VACCINATION.

M. Villeneuve, the reporter of the Commission appointed by the Royal Academy of Medicine to examine the various reports sent from forty-one departments of France by order of the Government, has published the following Table of the general results of the vaccinations and re-vaccinations performed, and of the number and issue of the cases of small-pox in those who had been vaccinated.

DEPARTMENTS.	Vaccinations.			Re-vaccinations after ascertained Vaccination.			Smallpox after ascertained Vaccination:	
	Number.	Successful.	Unsuccessful.	Number.	Successful.	Unsuccessful.	Number.	Deaths.
Aisne	292	257	35	72	12	60	13	
Alpes, (Basses) .....	..	..	..	9	2	7		
Ardecbe .....	..	..	..	..	..	..	1	
Ardenues .....	..	..	..	1	..	1		
Ariege .....	..	..	..	43	1	42		
Aveyron .....	..	..	..	110	10	100		
Calvados	223	212	11	2	..	2		
Charente .....	..	..	..	3	1	2		
Charente-Inferieure .....	..	..	..	12	7	5	3	
Corse .....	..	..	..	..	..	..	14	
Dordogne .....	..	..	..	400	..	400		
Eure .....	..	..	..	8	2	6		
Gers .....	..	..	..	66	4	62		
Herault	124	113	11	10	2	8	61	3
Ile-et-Villaine	1,473	1,393	81	..	..	..
Indre .....	..	..	..	361	2	359	1	
Indre-et-Loire .....	..	..	..	54	13	41		
Jura .....	..	..	..	2	1	1		
Landes	176	166	10	..	..	..
Loir-et-Cher .....	..	..	..	16	1	15	7	
Loire (Haute) .....	..	..	..	..	..	..	3	
Loiret	131	116	15	..	..	..
Lot-et-Garonne .....	..	..	..	..	..	..	1	
Manche .....	..	..	..	88	22	66	14	
Marne (Haute) .....	..	..	..	..	..	..	1	
Meurthe .....	..	..	..	33	1	32		
Nord	23,596	23,321	272	..	..	..
Pas-de-Calais	53	51	2	41	6	35	20	
Puy-de-Dome	1,258	1,241	17	188	83	105	23	
Pyrenees (Basses) .....	..	..	..	101	6	95		
Pyrenees-Orientales	517	508	9	361	..	361		
Saone (Haute) .....	..	..	..	..	..	..	1	
Sarthe .....	..	..	..	..	..	..	3	
Seine-Inferieure .....	..	..	..	..	..	..	1	1
Seine-et-Marne	60	59	1	..	..	..	20	
Sèvres (Deux)	528	505	23	..	..	..
Tarn	583	579	4	71	5	66	9	1
Tarn-et-Garonne	1,399	1,330	69	141	39	102	116	
Var .....	..	..	..	2	2	..	20	
Vaucluse .....	..	..	..	..	..	..	3	
Vendee .....	..	..	..	1	1	..		
Total	30,113	29,853	560	2,199	223	1,976	365	8

Remark.—It is to be noticed—1, that the above table contains only the results of those reports in which the vaccinators have recorded their unsuccessful as well as their successful cases; and, 2, that wherever the re-vaccinations have been described in the reports as doubtful, they have been omitted.

It results from this table,—

1. That the proportion of cases in which vaccinations failed, compared with that in which it took effect—estimated by some writers as one to eight, or one to ten—is not more than about one to fifty-four.

2. That of 2,199 cases, in which re-vaccination was performed on persons of different ages and sexes who had been successfully vaccinated at some previous period of their lives, the operation took effect in 223 cases only—which would give the proportion of about one to thirteen or fourteen.

3. That of 365 cases of confirmed small-pox, occurring in persons who had been at some previous period successfully vaccinated, there were only eight that proved fatal—giving a proportion of about one in forty-five or forty-six.

We know that sporadic small-pox usually carries off about an eighth or a tenth of those who are affected with it; and that when the disease becomes epidemic the mortality is often as high as one in four, and sometimes even higher.

M. Villeneuve, in submitting the above table as containing the results of the labours of the Commission, admits that the data hitherto supplied are far from being sufficient to solve the question submitted by the Government to the Royal Academy—whether it is necessary to have recourse to re-vaccination as a universal measure throughout France.—*Annales d'Hygiene et de Med. Legale*.

Remarks.—The professional public is certainly indebted to M. Villeneuve for the preceding statistical table; for although it is imperfect in several respects, it gives us the opportunity of learning the gratifying intelligence that vaccination has proved in France, as it has in every other country into which it has been introduced, one of the very greatest blessings ever bestowed by one man on his fellow-creatures. If the report told us nothing else but that small-pox after previous vaccination proved fatal in eight cases only out of three hundred and sixty-five, it would be valuable for this announcement alone.

We anxiously wait for a further and more ample account of the researches of the French Commission, appointed by the Minister of the Interior to examine the state of vaccination in France, and the various questions connected with it.

We avail ourselves of this opportunity of strongly recommending all medical men to use *fresh* and *fluid* lymph,—directly from the vesicle if possible,—when-ever they practice re-vaccination. We are quite convinced that the failure in a large number of cases, where the operation takes no effect, is attributable to *dried* lymph having been used.—*Rev.*

SKETCH OF THE PROGRESS OF MEDICINE IN FRANCE DURING 1840.

It is a useful practice, adopted by the *Gazette Medicale*, to recapitulate at the commencement of a new year the leading events in medical knowledge, which have been recorded during the course of the preceding one. M. Guérin has with this view published three somewhat lengthy papers in the January number of his journal; and although most of the notices are very brief, and quite insufficient to convey an accurate idea of the memoirs, which they profess to give an account of, yet the mere mention of many of them will often be found useful, by refreshing the memory, and by suggesting a train of thought to the mind of the reader himself. Unfortunately we have not left ourselves sufficient room to give more than an abstract of part of M. Guérin's first paper, and shall therefore be obliged to defer any notice of the other two papers till our next quarter.

M. Guérin commences with anatomy and physiology.

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M. Lallemand, the distinguished professor of Montpellier, has endeavoured to show that fecundation is not an act, in which an inert body is suddenly vivi-

fied by an amorphous fluid, in consequence of any electric, nervous, or dynamic influence; but that it consists essentially in the union of two living bodies, each of which is necessary to the developement of the other. It is always a living part which is separated or detached from the type, either to become developed by itself, or to seek in another part the means which are necessary for its further development. The inert matter is organised and becomes living in the parent organism, before it acquires an independent existence. This idea is in accordance with the opinion of *Carus*, who maintains that the ova are formed in the ovaria of the female child even before its birth—so that, in the latter months of a pregnancy with a female fœtus, there are actually three generations co-existent in the same individual. *M. Lallemand* has communicated some interesting observations on the changes of form, which the spermatatic animalculæ may exhibit in the same persons, at different periods of life.

M. Prevost, of Geneva, also has written upon the same subject: treating of the zoospermes, he says: "These spermatatic animalcules have not the rounded extremity, as generally represented and described by most authors. They consist of—1, an anterior portion, much drawn out and very mobile, transparent, and moving with rapidity; 2, a middle portion, which is thicker; and 3, a lengthened and transparent tail, which is as moveable as the body."

M. Serres has prosecuted his very interesting researches on the branchial respiration of the embryo in mammiferous animals and in birds.

The anatomy of the nervous system has been much enriched by the labours of *MM. Bazin* and *Baillarger* and more especially of *M. Foville*. This distinguished physiologist has communicated to the Royal Academy a full account of his numerous dissections and experiments, which throw great additional light on the views, held by *Oken*, *Blainville*, and *Charles Bell*, on the vertebral conception or development of the head, the origin of the cerebral nerves, and the analogy between the encephalic and the spinal nervous systems. After explaining the order and mechanism observed in the development of the convolutions and the hemispheres of the brain, *M. Foville* proceeds to point out (what its vertebral conception might lead us *a priori* to infer), that the cerebral nerves are, like those of the spinal marrow, composed of two sets of filaments—the one set arising posteriorly and being exclusively sensory, and the other set arising anteriorly and being exclusively motory: the olfactory, the optic, and the auditory nerves belong altogether to the first set, arising from, and being connected with, the posterior bundles of the medulla. To demonstrate these facts, we must follow the medulla into the cranium, with the characters which it has in the vertebral canal—a task which *M. Foville* has done with the greatest success. In the concluding part of his memoir, he very ably points out and illustrates the relations which the convolutions of the brain have with the calvarium. He shews that its elevations and depressions represent outwardly the elevations and depressions of the parietes of the ventricles.

The researches of *M. Bazin* have for their object to establish the existence of certain connexions, anatomical, physiological, and zoological, between the different parts of the nervous system—to shew, for example, the relations and the manner of association of the sensory and the motory nerves in the encephalon, which the author regards as a centre where the first set terminates, and whence the second set comes out. Those of *M. Baillarger* relate almost entirely to the physical composition or structure of the brain. He has endeavoured to shew that the corticle substance alone is composed of six layers or strata, alternately white and cineritious—an arrangement which, according to his opinion, implies an analogy with the plates of a voltaic pile.*

* Vide Medico-Chirurgical Review for October, 1840. Art. Nemoirs of the Academy of Medicine.

M. Longet has, by a series of well-contrived experiments proved that M. Majendie has fallen into error in supposing that the anterior or motory roots of the spinal marrow are at all connected with sensation; and he shews that the conclusions of Charles Bell are strictly correct.....

Dr. M. Hall has prosecuted his researches on the reflex functions of the nervous system with great ability, and he has been ably seconded by Miller, Volckmann, and Budd.....

M. Fleurens has examined with much success the mode of the growth of the bones and of the teeth. By feeding young animals on madder, he has shewn that the development of these structures takes place by the super-addition of new laminae and the absorption of the old ones in both structures; but with this very important difference, that in the former the new laminae are deposited on the outer surface and the inner laminae are simultaneously absorbed; while, in the latter the new laminae are added internally, and the absorption takes place on the outer surface.....

The physiology of the circulation has not received so much attention during the last year as that of the nervous system. It may be right however, to allude to the researches of MM. Dubois and Poiseuille on the organisation of the capillary vessels and the propulsion of the blood through them; and also to those of M. Latour, who has shewn that the tissues of cold-blooded animals are not susceptible of genuine inflammatory action..... M. Donné has been prosecuting his most interesting enquiries on the intimate structure and composition of many of the animal textures, diseased as well as healthy; he is the first who has produced photogenic images of microscopic objects obtained with the ordinary microscope.

Another labourer in the field of microscopic anatomy has been M. Gluge, whose researches have thrown considerable light on the pathology of *ramollissement* of the brain. He has shewn that, in a great number of cases, the white softening, without sanguineous effusion, exhibits the products of the first degree of inflammation, the formation of compound globules; and that the coloured softening, with sanguineous effusion, may re-unite the preceding phenomena, or merely the appearance of a mechanical imbibition of a sanguinolent serum. It would seem, if M. Gluge's views are confirmed, that in the majority of cases the softening of the cerebral substance is owing to a certain degree of inflammation, which has never hitherto been distinctly detected. With respect to the causes of these cerebral changes, it is more than probable that in very numerous instances they are associated with, if not directly attributable to, hypertrophy of the heart.

The intimate connection between cerebral and cardiac diseases has of late years been studied with great assiduity. Every practical physician must daily meet with instances of it; although it is not unfrequently difficult to determine in head disorders whether they are actually induced, or are merely aggravated, by the co-existing disturbance of the central organ of circulation. However this may be, it is always sound practice to make ourselves acquainted with the state of the heart, whenever we have reason to suspect the existence of cephalic mischief. One of the most potent of all remedies in such cases is digitalis—especially in the form of infusion, and it is unnecessary to say that its action is especially on the heart. The infusion may be associated with minute doses of the corrosive sublimate in many cases with striking advantage.

CLINICAL REVIEW.

ROYAL INFIRMARY OF EDINBURGH.

CASES IN SURGERY FROM THE CLINICAL PRACTICE OF PROFESSOR SYME. Reported by J. HENDERSON HARDIE, M.D. Edinburgh.*

1. *Injuries of the Head with Concussion of the Brain—Bleeding from the Ear—Recovery.*

Case 5.—John Macleod, aged twenty-four, was thrown out of his cart on the 23d of March, and sustained a compound fracture of the frontal bone, there being merely a fissure with slight depression on one side. On admission he was insensible, and had profuse bleeding from the right ear. He gradually recovered without operation, deafness on the right side being the only permanent inconvenience resulting from the injury, though an inequality on the surface of the bone can still be perceived.

Case 6.—Joseph Ross, aged thirty-four, had fallen into a dry dock at Leith, on the 10th of August last, when he was found labouring under the symptoms of concussion of the brain, with considerable bleeding from the left ear. The ordinary treatment for such injuries was pursued, and he was dismissed six weeks afterwards, complaining only of deafness on the left side.

Case 7.—John Thomson, aged twenty-six, was admitted on the 5th of September, having just received a severe blow on the head and left shoulder by the fall of a mass of iron, weighing twelve hundred weight, which, fortunately, only grazed those parts in its descent.

The consequence was fracture through the body of the scapula, and an injury at the base of the skull which occasioned copious hæmorrhage from the left ear. He quitted the hospital on the 12th of October, able to resume his employment as a labourer, and suffering only from deafness on the left side.

The reporter observes—as bleeding from the ear is by some considered a fatal symptom when attending concussion of the brain, it has been thought right to mention the preceding cases of recovery under such circumstances.

The hæmorrhage no doubt denotes a fissure at the base of the skull, extending through the lateral sinus, certainly a very dangerous occurrence, though not necessarily a mortal one.

The reporter mentions the following curious case:—

In the spring of last year Dr. James Wood asked Mr. Syme to see a young gentleman, eleven years of age, on account of an alarming hæmorrhage from his ear. He was recovering from a severe attack of scarlatina, in consequence of which both ears had suppurated, when, upon the fifteenth day, a large quantity of blood was suddenly discharged from the right side. During the six succeeding days the bleeding returned three times, to the extent, by computation, of a pound on each occasion. It was deemed proper to place a ligature on the carotid artery, which was concluded to be the source of the hæmorrhage. Bleeding recurred while the operation was being performed; and twice again, to a small extent, not exceeding a few tea-spoonfuls, in the course of the following evening and night.

For several days afterwards there was hardly any appearance of blood, and all the circumstances encouraged the entertainment of favourable hopes. Symp-

* Edinburgh Monthly Journal of Medical Science.

toms of cerebral excitement, however, then showed themselves, and terminated fatally on the eleventh day after the operation.

On examination it was found that the carotid artery was not concerned in the disease; but that a small ulcerated aperture, in the osseous septum between the termination of the lateral sinus and the cavity of the ear, had permitted the blood to escape from this vessel.

Could this have been ascertained previously, stuffing the ear would, of course, have suggested itself as the proper practice.

2. *Punctured Fracture of the Skull—Wound of the Sinus—Operation—Death.*

Biddie Drummond, aged seven years, was admitted on the 28th of February last, having just received an injury on the back of her head from a stroke with a large stone. She became insensible immediately after the accident, and on admission was very drowsy and confused, with stertorous breathing, an intermittent pulse, and a cold surface. Her head was shaved and warmth was applied to her body generally, till Mr. Syme's arrival two hours after she was received into the hospital. A punctured fracture being found—at the occiput in the mesial line—it was considered necessary to apply the trepan in order to remove the depressed bone. This being done, a loose scale of the internal table was removed, immediately after which the child became conscious and answered questions; but a profuse gush of dark-coloured blood issued from the bottom of the wound, and came from the superior longitudinal sinus, opened by the bony spiculum. This hæmorrhage was suppressed by means of a compress and bandage.

Everything went on favourably—the wound and dura mater looking well, the child sitting up in bed—until a week after the operation, when, during a fit of coughing, at least a tumbler-full of blood issued from the wound, inducing syncope; a dossil of lint was placed in the opening, and over it a piece of cork, firmly retained by a bandage. This had the effect of stopping the hæmorrhage for the time.

Two days afterwards considerable restlessness came on, with profuse perspiration, intermitting pulse, insensibility, and other signs of sinking. She died in the course of the night. On examining her head the brain and membranes had an exsanguine appearance, and five drachms of serum were found in the lateral ventricles. An opening, much larger than that seen during the operation, existed in the superior longitudinal sinus at the seat of injury; the margin of this aperture was sloughy, ulcerated, and covered with pus. A fibrinous clot lay in the sinus for some distance anterior to the opening in it, but did not, in any way, tend to close the breach in this vessel.

3. *Gunshot Wound of the Skull—Operation—Hernia Cerebri—Death.*

Robert Blake, aged twenty-seven, was admitted on the 1st of July, after having walked from Habbieshow, at the Pentland Hills, a distance of about eight miles from town. He stated that, from the accidental discharge of a pistol, a bullet was lodged in his head, behind the right ear.

On examination it was found to be so; but from other information, and more particularly from his having attempted suicide some time before, it was thought that the injury had been inflicted intentionally.

The wound—an inch and a half above and behind the right ear—was small and circular, with inverted, blackened edges. A bullet was found firmly impacted in the skull at the bottom of the wound; this being extracted, it appeared that the subjacent bone was depressed. The patient was excited, without any marks of compression.

The trepan was applied by Mr. Syme over the seat of depression, and seven loose fragments of both tables removed. A small clot of blood lay on the dura mater, which appeared rather torn and uneven. Cold applications were ordered

to the head, and strict rest was enjoined. In the evening the patient was bled to syncope, and a large dose of colocynth and calomel was administered. On the following day he complained of headache; his pulse rose rapidly, from 80 to above 100, and he became restless: he was bled to fourteen ounces, and the same purge was repeated. On the 3d he felt much pain in the forehead; to alleviate which, twelve leeches were applied to this part; and in the evening—in consequence of aggravation of the pain—sixteen ounces more of blood were removed from the arm, and a purge—consisting of colocynth, gr. xv. and croton oil gr. i.—was given. A poultice was then applied to the wound, at the bottom of which the dura mater was seen discoloured. On the 8th, a soft round swelling, as large as a nutmeg presented itself at the opening in the skull; a bandage and a compress were applied in order to oppose its increase. On the 9th another protrusion manifested itself at the side of that just mentioned; his pulse being rather full, he was bled to the extent of ten ounces. On the 10th, the protruded part was shaved off to a level with the opening in the cranium; and compresses with a bandage were applied. The portion removed weighed 110 grains, and, though in a sloughy state, showed traces of the cerebral substance mixed with blood. Another protrusion presented itself on the 12th; it, however, seemed to be a mere slough.

At this time the patient had a severe rigor; he was feverish, and laboured under insensibility, whilst the signs of approaching sinking rapidly made their appearance. He died on the 17th of July. The head was examined after death, when the dura mater, at the seat of injury, was seen perforated, sloughy, and discoloured; at the same part an abscess, about as large as a walnut, existed in the substance of the brain, which was otherwise in a healthy condition.

4. *Dislocation of the Humerus into the Axilla of seven weeks' standing—Reduction.*

William Stewart, aged fifty-six, a slater from Dumfermline, fell on his right shoulder seven weeks before his admission into the Hospital, on the 3d of December last. The case was looked upon by a bone-doctor in the country as a bruise, and was treated accordingly. All the characters of dislocation of the humerus inwards, however, were well marked, the bone was rather farther forward than usual, and the abnormal direction it followed was particularly observable. After having been for an hour in the warm bath, he was placed horizontally, and subjected to extension, by means of the pulleys, in the direction of the long axis of the body. The bone regained its place without any snap, but escaped on the extension being discontinued. Again reduced, it was retained *in situ* by a spica bandage, and a pad in the axilla.

In this case it was supposed that the glenoid cavity of the scapula had either been altered in its form by absorption, or had been fractured at the time of the accident, and that, in consequence, the head of the humerus was permitted to leave its place.

The warm bath was used in the case just related, as considerable difficulty was anticipated from the long standing of the injury. In such cases Professor Syme generally has recourse to this means, occasionally aided by blood-letting, and nausea kept up by repeated small doses of the tartarized antimony, given previously to the attempt, as it is found difficult to induce this state whilst the efforts at reduction are being made.

“ Besides the above case of dislocated shoulder, three recent luxations of this joint presented themselves; they were all into the axilla. In the first of these I effected reduction by means of the heel in the axilla whilst extension was made from the wrist; in the second by placing the knee in the axilla whilst the arm was extended transversely; and in the third case, which had just happened, I attained the object, without any assistance, by suddenly abducting the arm, rotating it outwards, and thrusting the bone forwards.

In the first of these three cases the method mentioned was followed, as some difficulty was anticipated, and assistance could not be readily procured. The second method seems, in ordinary circumstances, the most convenient ;—whilst the one last mentioned has been found generally to answer, when an opportunity was afforded of effecting reduction within two or three hours after the injury had been received."

5. *Stricture of the Urethra—Incision—Cure.*

Alexander Williamson, aged twenty-four, from Queensferry, was admitted on the 24th of August last, with a very tight stricture of the urethra between two or three inches from its orifice. About two months previously he had retention of urine, and applied to a practitioner for relief. Attempts were made to introduce the catheter without success, but with the effect of causing great pain, and a copious flow of blood. Mr. Syme tried repeatedly, and on different days, but in vain, to pass a catheter of the smallest size, flexible as well as solid ; and at length resolved to cut through the strictured part. This was done by introducing the point of a sharp-pointed curved bistoury through the integuments, upon the extremity of a bougie pressed down as far as possible along the canal.

A full-sized catheter was immediately afterwards passed into the bladder, and retained there for twenty-four hours. The wound was quite healed on the fourth day, when the man left the hospital. No. 11 of the catheter scale has been passed several times since then, and the canal does not evince any disposition whatever to contract.

It is remarked, that when strictures occur in the anterior part of the urethra, they are apt to acquire an extreme degree of tightness. If situated at a greater distance from the orifice, their apparent narrowness may be attributed to the difficulty of guiding instruments through them. But the superficial position of those now under consideration, prevents any such ambiguity, and the successful issue of the case just related, affords encouragement to employ the summary measure of incision, when the ordinary method of dilatation proves impracticable.

6. *Hare Lip.*

Some cases are related for the purpose of shewing,—

1st. The impropriety of operating at an early age. 2d. The advantage,—both as regards the firmness of union, and the appearance of the lip,—derived from a free removal of the round and thickened margins of the fissure. 3d. The danger of leaving the lip unsupported sooner than the fourth day, at least, after the operation.

7. *Popliteal Aneurysm.*

1. *Spontaneous Cure.*—Henry Williams, aged thirty-six, a weaver, was admitted on the 20th May, 1839, on the recommendation of Mr. Cunningham of Kirkcaldy, to have the femoral artery tied for popliteal aneurysm. The tumor occupied the hollow of the ham—it was circumscribed in form—and, from the distinctness of its pulsation, seemed to contain little coagulum. The patient's attention had been first directed to the complaint about two months before, by an uneasy feeling of stiffness in the part, after a particularly severe day's work.

He was confined to bed, and ordered a laxative to prepare him for the operation. Next day the pulsation had become extremely obscure, and though it slightly returned the following day, at the end of two days more it could not be perceived at all. The articular arteries were then felt to be much enlarged, and the tumor quickly diminished in size, while it increased in firmness, until merely a small knot the size of an olive remained. He was dismissed at his own desire on the 31st of May.

It is not very often that aneurysm in an early stage is cured spontaneously. Mr. Syme says,—“It has been a question whether an early or advanced stage of the disease is more favourable for success,—the undilated state of the anastomosing vessels being considered adverse in the former, and the quantity of extravasated blood an obstacle in the latter. From all that has fallen within my own observation, I should have no hesitation in preferring to operate at an early period, having never witnessed in my own practice the slightest unpleasant symptom of defective circulation, however small and recent the tumor might be.”

Mr. Syme comments on the bad consequences that ensue from ligature of the femoral artery. He has, however, tied it seven times with success. “But within the period of doing so, I am not aware of any case that has terminated favourable in this city, while I have either seen or heard of four that ended badly, viz. one by inflammation of the vein, one by mortification, one by hæmorrhage, and one by amputation.” He observes that the femoral artery has a closer connexion with the vein, and though it is felt by the operator's finger, after the fascia has been opened, round and distinct, and as if insulated from the surrounding parts, except by the loosest connexions, any attempt to pass the ligature, without further dissection, either proves abortive, or if executed by force, exposes the patient to the greatest danger. “I have seen a gush of dark-coloured blood proclaim transfixion of the vein; I have seen on dissection a portion of this vessel included in the ligature; and I have also seen the external coat alone grazed, as it were, by the needle, but nevertheless excited to fatal inflammation. If, on the other hand, this danger be avoided by using blunt instruments, or the finger to detach the artery from its connexions, the patient is exposed to the hardly less disastrous consequence of hæmorrhage, through ulceration or sloughing of the vessel.

To tie the femoral artery safely, the surgeon should be impressed with the conviction that the operation is one not of difficulty, but of great nicety. He should make an incision between two and a half and three inches long in the proper situation, cut through the fascia to a smaller extent, and expose the sheath of the vessels. So far he can hardly go wrong; but then, instead of hastening to pass his needle, he should, by ligature, or the temporary application of spring forceps, close every little vessel that discharges enough of blood to obscure distinct vision of the object he has in view. Let him now seize the sheath with dissecting forceps, and gently raising it, make a small opening by means of a straight narrow sharp-pointed knife. The cellular and fatty substances which envelope the vessels in variable quantity, are next to be elevated and divided in successive portions, until the external coat of the artery appears quite distinct and *white*, when the needle may be passed without the slightest difficulty or danger.”

8. *Brachial Aneurysm.—Sac laid open.*

Case.—William Smith, aged twenty-three, was admitted on the 19th of October last, on account of a pulsating tumor at the bend of the arm, which had resulted from his being bled there nine weeks before. In consequence of the pressure which had been used to remedy the aneurysm, the skin covering it was ulcerated to a small extent; the pulse at the wrist was nearly as strong as in the sound limb.

On the following day, Mr. S. laid open the sac, having previously applied a tourniquet, turned out the clots, and readily discovering the wound of the artery, passed the needle first above and then below it, so as to convey a couple of ligatures, which were tightly tied. No bad symptoms followed, and the patient was dismissed on the 18th of November quite well.

Mr. Syme always resorts to this operation which he finds as effectual as easy.

9. *Varicose Brachial Aneurysm—Operation.*

Case.—Agnes Easton, aged twenty-three, admitted May 28, on account of injury in venesection three months before. On examination it appeared that a communication between the artery and vein still existed, through the medium of the aneurysm, the latter of the vessels being considerably distended, and conveying a jarring sensation to the hand placed over it, while the characteristic purring sound was distinctly heard, by applying the ear, either directly or with the intervention of the stethoscope.

A tourniquet having been screwed on, the sac was laid open freely, so as to avoid the vein. Instead of the laminated coagulum, which lines the interior of aneurysms, presenting itself, it was then seen that the cavity contained only fluid blood, and that the surface of its parietes was perfectly smooth, white, and, in short, similar to that of an artery. There was hence some difficulty in detecting the wounded part of the vessel; and it was necessary, partly by dissection, but chiefly by tearing, to remove the principal part of the sac. The orifice being then discovered, Mr. S. exposed the artery above and below it, so as to pass a ligature at each of these points. No inconvenience was experienced, pulsation being felt at the wrist the evening after the operation, and the patient was dismissed quite well on the 16th of June.

The patency of communication with the vein, in this instance, prevented the remora and coagulation of blood in the tumor; and ligature of the artery, without opening the latter, would probably have been of little service.

10. *Aneurysm by Anastomosis—Excision.*

“William Farquharson, aged fourteen, from Perthshire, was admitted on the 7th of September, 1839.

Having finished my visit, I was about to leave the hospital, when the house-surgeon told me that a case had just been admitted under my care, that required immediate attention. The complaint, he said, was a sore on the leg which had a great disposition to bleed, and that having taken off a bandage from the limb, he had found it necessary to apply a tourniquet, to arrest the profuse hæmorrhage which ensued. On going into the ward, I found the patient in bed, with his leg lying in a pool of blood. The outer side of it, a little below the knee, presented a discoloured and slightly elevated surface, extending from the head of the *fibula* about four inches and a half downwards, and three in breadth. The blood appeared to have issued from two small irregular ulcerated openings near the centre of this part. Over these compresses were placed, and secured by a roller applied firmly from the toe upwards. This arrested the hæmorrhage, and afforded time to inquire into the case, and consider what should be done.

The patient stated that, to the furthest extent of his recollection, there had been a dark coloured mark, about the size of a half-crown piece, in the seat of the disease; but that this had occasioned no inconvenience until two years before, when an opening took place, and blood, in large quantity, gushed out. The discolouration had then extended, and been accompanied with elevation of the surface. Subsequently the bleeding frequently returned, and in his lonely occupation of a shepherd, repeatedly threatened to prove fatal. Latterly he had suffered in this way every two or three weeks, and become so much exhausted, that his friends, seeing him about to sink under the complaint, undertook the long journey from their distant residence in the Highlands, in quest of relief.

There could be no doubt as to the nature of the disease, which was evidently a tumor composed of erectile texture; but great difficulty seemed to lie in the way of any efficient treatment. The large superficial extent and position in part over the bone, rendered the use of ligatures inapplicable, while from the uncertain depth, and large portion of skin engaged, excision appeared an ope-

ration not only formidable in its execution, but unpromising in its result. In these circumstances, I resolved to attempt the excitement of inflammation and adhesion between the interstitial surfaces of the morbid structure, and with this view, two days afterwards, having previously applied a tourniquet, cut through the whole length of the discoloured integuments, detached them from their subjacent connections, and stuffed the cavity with lint, the bandage being then applied as before.

Every thing went on well for six days, when the roller being loosened, blood streamed out with undiminished force. The patient was now reduced to a state of extreme weakness, and I was in despair of relieving him in any other way than by amputation, when a gentleman, whose valued acquaintance I owe to this case—Dr. Little of Sligo, encouraged me to try extirpation of the disease, by mentioning that he had known this done with success on an equally unpromising occasion. The whole of the unsound surface having been embraced by an elliptical incision, I divided the fascia, and was glad to find the muscular substance not implicated. Cutting through it parallel to the base of the disease, I arrived at the bone, and readily completed the separation from it, as the periosteum was not engaged. Three or four vessels were then tied, and lint being applied to restrain any oozing from the surface, a roller was put on, and the tourniquet removed. No unpleasant symptom followed, and though the cure, as might be expected, proved tedious, it was ultimately complete."

GUY'S HOSPITAL.

1. *Fatal Case of Chorea.**

The patient was a sickly-looking boy, aged fourteen. He appears to have enjoyed good health until he was five years of age, when he received a blow on the vertex of the head from a shovel, which caused a deep wound of about two inches in extent. During the process of healing, pains arose in the head, and have continued almost without any intermission to disturb him ever since. About a month after the injury, his mother, for the first time, observed that he was affected with convulsions. The attack then assumed a very severe form, both as to intensity and duration, and similar attacks have, from that time, constantly recurred, but at irregular periods, the intervals of the disease gradually lengthening, while the disease itself became less and less severe at each successive time of its occurrence. Three months ago, however, his sister died, and the news of her decease having been told to him somewhat suddenly, affected him very much. He rapidly became much worse in health; his headache assumed a very aggravated form, and he complained of weakness in his left side. Five days previously to his admission into the hospital, to all appearance without any immediately exciting cause, he was seized with an attack of chorea of a most violent form, so that at one time it required four men to hold him. He screamed loudly at night, foamed at the mouth, and attempted to bite those who approached him. The attack was ushered in by increased intensity of headache, and by vomiting, which last symptom continued for three days. He rapidly became worse; could not obtain rest nor swallow food, and lost all power of articulation. When admitted into the ward he appeared much worn, and his convulsive actions were so violent that it was necessary to strap him down to his bed. The treatment consisted in the administration of hyoscyamus and camphor at night, and ammonia in the day. Under this he appeared to improve, for the con-

* *Prov. Med. and Surg. Journ.* Dec. 5, 1840.

vulsions and cephalgia became less and less severe, and his articulation to a great extent returned: but notwithstanding support, as beef tea and wine, were given, in a few days he gradually sank, exhausted. Previous to his admission he had been bled, a measure which Dr. Bright considered very seldom judicious, excepting when the disease occurs in robust ruddy young women. It is curious that, notwithstanding the most careful examination after death, nothing morbid was detected either in the brain or spinal cord. There was a slight inflammatory deposit on the dura mater, but not corresponding with the site of the original blow, and certainly altogether insufficient to cause the disease.

2. Mr. Bransby Cooper upon Hydrocele.*

Abnormal Position of the Testis.—Do not merely satisfy yourselves as to the existence of a transparent tumor, and proceed at once to puncture it; but having the room darkened, and the light shaded by your hand, examine if the opacity denoting the situation of the testicle is behind, as is usually the case, before, or at one side. I have had to puncture at the back of the sac, because the testicle was adherent to the anterior part; but if practicable, it is always better to do it on the side, because as may be seen in this preparation, a number of adhesive bands may cross the cavity of the tunica vaginalis, uniting the testicle to the anterior part of the sac, but leaving the cord behind, and in the latter case, you might wound the spermatic artery by a posterior puncture. Sometimes these adhesions of organized lymph will form two or three sacs, constituting what is called encysted hydrocele; and then when you tap, instead of getting ten or twelve ounces of fluid, as you expected from the size of the tumor, you find only two or three. In this case each cyst may be opened by separate punctures through the scrotum; or you may do as I have been obliged to do, evacuate the fluid by passing a needle along the canula without this having been withdrawn. You should never inject in these cases, because the existence of the cysts depends on inflammation, and evidences such a tendency to inflammatory action, that the mere puncture will probably produce a radical cure. Injection, perhaps, would be admissible, however, after a second tapping. Sometimes you have only one of these cysts, and that a very small one.

Case.—A gentleman, aged 54, consulted me respecting a disease on the left testicle, from which, however, he suffered so little, as at times to lead him to suppose the disease was imaginary, although a small swelling was perceptible, which I examined and found at the upper part of the testicle, just over the head of the epididymis. It was soft and fluctuating; but at first I merely suspected it was a distention of the spermatic veins,—in fact, a partial varicocele. Being doubtful, however, I examined it with a candle, when the nature of the disease was rendered clear, by its perfect transparency. The tumor being tender to the touch, and so small and deeply seated, I ordered a few leeches, evaporating lotions, purging, and the use of suspensory bandage, lined with oil-silk, rather than puncture in the inflamed state; and I believe the gentleman quite recovered.

Now, I am not quite sure that this was a cyst of the tunica vaginalis, as it might have been merely an adventitious formation, external to the serous membrane. I know of no way of distinguishing this before puncture, but the nature of the fluid will determine it; for if the fluid have been secreted from the tunica vaginalis, it will be found highly albuminous, coagulating by heat and nitric acid, while the fluid of the more superficial cysts contains a very slight trace of albumen.

* Prov. Med. and Surg. Journ. Jan. 30, and Feb. 6, 1841.

Complication with Hernia and in Old People.—There is another point you must ascertain before operating, and that is, whether the hydrocele be complicated with hernia. Your patient states that he had the usual well-known symptom of hernia, and you find the posterior portion of the tumor opaque. Well, even if the hernia be irreducible, there is no danger in the palliative treatment, if you take due caution; but it is better not to inject, for fear of inflammation extending to the hernial sac. You would also be satisfied with the palliative means in very old people, whose constitutions it is found are incapable of supporting acute local inflammation; and you will sometimes be called to operate on persons of a very advanced age. I remember an old Norfolk admiral coming to me with a very large hydrocele, and he was either 89 or 90 years of age; so, before puncturing, I asked him if it gave him much pain. "Ch! no," said he, "but Mrs. H. finds it very inconvenient." (loud laughter.) Neither should I inject a hydrocele, the first time of tapping; for it often happens, though the patient may have complained of very little pain, that the mere irritation of the canula sets up an altered action sufficient to effect a permanent cure.

Iodine Injection.—For the last two or three years Mr. Cooper has used this exclusively—two drachms of tincture of iodine and six drachms of water; two drachms of which mixture may be injected and left. I have a note here stating that Dr. Henry Goodeve has used this injection in India in 276 cases, and has only failed twice. Since I have used the iodine, I have not had a single case where the injection failed to effect the radical cure, and only one where I had to repeat the injection. This was a case where the tincture of iodine that I used was bad, and as I felt convinced it would not succeed, I repeated the injection four days afterwards with some which had been properly prepared. The chemists will tell you more of this matter than I can; but if the tincture be made without the admixture of the hydriodate of potash, a precipitate forms when you add the water, and the mixture is quite useless, but when properly made the watery solution is perfectly bright.

Always place your Patient in a chair.—Always place your patient on a sofa, or let him lean back in a chair, because any one is liable to faint, however bold he may appear; and then, if you have operated while he is erect, he falls, probably upsets the basin, hurts himself, or frightens his friends, all which appear very clumsy, especially in a private house.

Never let a Patient walk home after Injection.—Even after simple tapping, I have several times known inflammation thus set up sufficient to bring about a radical cure; and I know of several cases where a patient has walked after injection, where great sloughing, and in one case, death ensued. I have notes of a case here where acute inflammation was thus set up, which terminated in gangrene and death in thirty-six hours, though the sac was not injected. William Knowlson, aged 64, was tapped in the surgery by one of the dressers, and about twelve ounces of common serum evacuated. Injection was not practised. He walked about four miles on the same day, and in the night was attacked with acute inflammation of the tunica vaginalis. The next day he was seen by a parish surgeon, who treated him for strangulated hernia, and afterwards sent him into this hospital, when there was great swelling of the scrotum and prepuce, and much irritative fever. Active treatment was adopted, but in less than twelve hours symptoms of gangrene of two-thirds of the scrotum came on, when stimulating poultices were applied, and he took calomel and opium with wine, porter, quinine, and as much nutriment as possible; but he died within 36 hours from the first attack. Sir Astley Cooper also mentions cases where dangerous symptoms came on after the patient had been allowed to walk; and one among others, of a gentleman who went down to Birmingham in the mail soon

after injection, and sloughing of the whole scrotum followed. He also gives two cases, where he thought suppuration was thus produced.

Dangers of the Seton.—Here, gentlemen, is one of the cases which have led me to abandon the use of the seton, and to recommend you to follow my example. A military gentleman, aged 52, had twice submitted to injection of the tunica vaginalis, but without success. I therefore determined to employ the seton, which I passed with a long needle, after having drawn off the fluid. On the evening of that day there was but little uneasiness, and the seton was left in. The next morning he was doing well; inflammation not beyond the desirable extent; but at the evening visit there was considerable pain and swelling, with great anxiety of countenance. The seton was withdrawn, and leeches and cold lotions applied to the part. A dose of calomel and opium was also given.

Aug. 20. Delirious all night. Tumor increased in size, dark-coloured and ecchymosed. Port-wine poultice; fomentations; calomel and opium.

Evening. Delirium continued; bowels open; pulse 130, very compressible; tongue dry; brandy and water; ammonia and opium.

21. Scrotum in a state of slough; had a better night, less delirium; pulse 100; tongue moist. From this time he slowly improved, and ultimately recovered.

I had another case, in Job's ward, of a patient who had had hydrocele frequently injected without success. I therefore passed the seton. Violent symptoms followed. Suppuration took place; I therefore laid the tunic open, and the man ultimately recovered, but with great risk.

Tetanus after the Operation.—I remember a gentleman who submitted to this operation under the care of Sir Astley Cooper; wine and water being the injection used, which did not at the time produce more than the usual degree of pain. In twenty four hours after, however, the patient complained of uneasy sensations about his jaw, attended with difficulty in swallowing, and shortly afterwards positive tetanus supervened. Calomel and opium were administered in large doses; fomentations were applied to the scrotum, which did not appear inordinately inflamed; and the patient ultimately recovered, although at one period the case seemed hopeless. It may be worthy of remark that this gentleman was a native of the South of Spain.

*Calculus projecting in the Loins.**—I once saw a case of this kind with Sir Astley Cooper. He took me over to Limehouse, to see a gentleman who had an abscess, which was supposed to depend on disease of the hip joint; and, on opening this abscess, he put his finger to the bottom of the wound, and, feeling something hard and rough, thought it was a piece of exfoliating bone, but, when he had removed it by the forceps, it proved to be a urinary calculus. Well, after this, by a patient investigation of the symptoms, he was enabled to trace their cause from its formation in the kidney to its passage along the uréter, and then, as it had not reached the bladder, it had evidently passed through the ureter by ulceration, and excited suppuration in the gluteal region.

Advantages of Leek Tea.—I remember once going to Lambeth with Mr. Cline to see a patient; and this man had tied a cord across two of his bedposts, over which he threw his legs, and thus suspended himself by his hams. There was no doubt some ulceration of the bladder, and by this posture he made the stone gravitate from the ulcerated part. You may be inclined to say, when you consider what an excessively painful posture it must be to hang by hours together on the cord by the hams, that the remedy must be worse than the disease; but

* Prov. Med. and Surg. Journal, Feb. 13.

you must remember that pain is a comparative state: and it shows you what intense agony a man must suffer to lose the sense of pain, which must follow such a position, in the relief it afforded him. This man had refused an operation till it was too late, until, indeed, it was plain the bladder was so ulcerated, that no surgeon would operate. Mr. Cline was talking over various remedies, proposing first one and then another, all of which, it appeared, had been tried, till at last he said he had seen great relief follow leek-tea. Well, this was given him, and afforded the most astonishing relief, so much so, that he was enabled to resume a recumbent posture. However, it soon lost its effect, and the poor fellow died, completely worn out. I have seen it tried several times since, sometimes with and sometimes without effect; and I would advise you to bear it in mind, as worthy of trial, though you cannot foretell in what cases it will afford relief and when it will not.

Never operate unless you hear the Stone at the time.—I would lay it down as an axiom, that you should never perform an operation for the removal of stone from the bladder, unless you can hear the sound of the steel against the stone at the time of the operation. Do not be satisfied with the sense of touch, without that of hearing also. I distinctly felt and heard the stone in the bladder of the man now in the hospital this morning; but if I could not do so in the theatre to-morrow, I should put off the operation for that simple reason. You don't know what has occurred. The stone may have become sacculated; it may have passed out of the bladder through the urethra, or by ulceration; and in all cases an operation would be improper.

Sir Astley cut a Patient for Stone in his Consulting Room.—A child was once brought to Sir Astley Cooper, in whose urethra he distinctly felt a stone. He therefore told his man to hold the child on his knees, and separate the thighs, just as we tie them in lithotomy, and then made a cut through the perineum upon the stone. However, just as he was about to withdraw it with the forceps, it slipped back into the bladder. He determined not to leave off till he had effected his object, and accordingly carried on his incision into the bladder, and removed the stone with a pair of dressing forceps. He took his guinea, and the child was taken home in a hackney-coach, and did uncommonly well and I suppose Sir Astley is the only man who ever performed the operation of lithotomy on a mere morning patient in his consulting room

NEW YORK HOSPITAL.

REPORT OF SURGICAL CASES. By JOHN WATSON, M.D. one of the Surgeons to the Hospital.*

We select some of the more interesting of the cases reported.

1. *Varicocele relieved by removing a portion of the Integuments of the Scrotum.*

John Pierce, aged 21, a seaman, admitted June 23, with a large varicocele on the left side. On the day after admission, as much of the integuments of the scrotum as could be drawn together by the fingers over the enlarged vessels, was firmly seized and held together between the branches of a long pair of forceps, and the part above the forceps was then removed by one stroke of the bistoury. The flap appeared to form about one-third of the whole integuments

* New York Journ. Med. and Surg. Oct. 1840.

of the scrotum; and the retraction of the remaining portion was so great immediately after the operation, as to leave the whole of the tunica vaginalis on the left side exposed, and to allow the edges afterwards to be drawn together by sutures only with the greatest difficulty.

For several days after the operation, the patient continued comfortable; and though no portion of the wound united by adhesion, yet it contracted very rapidly, and presented a healthy granulating surface. But on the 1st of July, he was seized with a severe chill, with nausea and vomiting, which was followed by ferile excitement, and finally by a severe attack of erysipelas, which involve the integuments of the scrotum, penis, and parts adjacent, and extended to the sub-cutaneous cellular tissue in which it proceeded to suppuration. One or two openings formed along the base and body of the penis, continued to discharge freely for several days. As the erysipelatous inflammation subsided, the original wound, as well as the the ulcerated openings, gradually contracted; and by the 20th of July, they had entirely healed.

The patient left the hospital on the 4th of August. The cicatrix produced by the healing of the wound was sufficient to support the distended veins, and prevent them from protruding much below the external abdominal ring; but they had not become permanently contracted or consolidated. After the patient had been for some time in bed, the swelling would appear to be effaced; but after he had been walking about the house all day, the enlargement of the veins was still apparent. He was, however, permanently relieved of the dragging sensation and pains of which he complained before the operation.

2. *Operation for Inversion of the Toe-nail.*

In this case the disease was of long standing, and had resisted every form of treatment, short of extirpation of the nail itself. The soft parts on both sides of the nail of the great toe on the right foot were ulcerated and in a fungous condition, and so sore as to prevent the patient from using his foot. Palliative means were employed until the irritability was in some degree subdued, and on the 21st of January the whole nail was removed by a modification of Lisfranc's operation.

The edge of a straight bistoury was carried perpendicularly through the integuments behind the matrix of the nail down to the bone, then directed forwards and carried horizontally under the nail toward the extremity of the toe; thus removing the nail and its matrix at a single sweep. The wound healed by granulations, and the patient was discharged on the 10th of February.

3. *Fracture of the Patella badly united by ligamentous union; followed by diffuse Inflammation and Suppuration in the neighbourhood of the Knee-joint*

John Harrison, seaman, of Massachusetts, aged 28, admitted on the 8th of December, 1839, with an acute attack of inflammation which soon resulted in a diffuse abscess in front and on each side of the right knee-joint.

About eighteen months previous he had a transverse fracture of the patella, for which he was confined, with the limb in a straight position, about ten weeks. At the end of this time the fragments were in apposition; but as he began to use the limb the ligamentous union gradually yielded until the two fragments of bone became separated to the distance of three inches and a half from each other. In this condition he remained, able to walk about with a stick until the present attack. The inflammation and suppuration, though profuse, did not involve the cavity of the joint.

The case was treated as an ordinary abscess, and the patient cured February 10th, 1840.

Contraction of the Neck from Injuries.

Dr. Watson alludes to three cases.

In one of these, an injury behind the neck had produced a degree of tension and permanent inclination of the head towards the right shoulder. This deformity came on gradually a few days after the injury, and persisted about two months. The patient was finally relieved by local depletion, counter-irritation, and passive motion.

In another case, a similar injury led to paralysis of the muscles on the back of the neck. The patient was unable to support his head erect, the chin falling towards the breast.

In the third case, tension of the neck, owing probably to inflammation extending along the sheath of the right sterno-mastoid muscle, followed an acute attack of tonsillitis. The deformity continued about two weeks after the inflammation had left the throat and then gradually subsided.

Tetanus treated by Assafœtida.

Dr. Watson used the assafœtida in five cases. Two terminated favourably. He would prefer administering it by the rectum.

Opium mixed with Supracetate of Lead, in large dose, swallowed with impunity.

A seaman under treatment for a carious ulcer near the lower part of the thigh was seized with slight erysipelatous inflammation around the surface of the sore, for which the house-surgeon prescribed an opiate lotion, to be made from thirty grains of opium, and sixteen grains of sugar of lead. The patient, mistaking the directions, swallowed these substances in their dry state, about 8 o'clock in the evening of January 26th. About midnight he began to feel unwell, and think he threw up a part of the powder; but he did not rest well during the night; no symptoms of narcotism followed the accident; on the following morning he was as comfortable as usual, and unaware that anything had gone amiss.

"Is it possible that the supracetate of lead, which is known to precipitate the extractive matter of vegetable infusions, could in his case have had any effect as an antidote? The opium was good, and the patient had not been in the habit of using this substance.

An instance somewhat similar happened in the hospital in the summer of 1837. A patient swallowed, by mistake, a drachm of opium mixed with a scruple of the supracetate of lead. The accident was discovered in about half an hour; an emetic was administered, and no serious consequences ensued."

SOUTH UNION WORKHOUSE.

EPIDEMIC OPTHALMIA.

Dr. Lees gives an account of this in the Dublin Journal for March.

The ophthalmia commenced on the 4th of June last, in a part of the institution (separate from the main body of the building) allotted for the children, and capable of containing four hundred, situated in an open and salubrious place, having a southerly aspect, but which, from being over crowded, as well as from some other defects, has proved the most unhealthy part of our establishment, an epidemic of petechial fever having broke out there a short time previously.

"The weather at this time was very cold, with sharp winds; so that in the first few cases I considered it as simple acute ophthalmia, excited by particles of dust having been blown into the eye; however it spread so rapidly, and assumed such a decided catarrhal character, with a peculiar state of conjunctiva and pupil, that I was led to regard it as an epidemic disease, and in this opinion I was confirmed by Mr. Creighton, who immediately recognized the disease as one which they frequently suffered from while he had charge of the Foundling Hospital, and which he regarded as of a highly contagious character."

The following case displays the features of the epidemic:—

Anne Magill, æt. 11. says she went to bed perfectly well on last night, (June 22.) she awoke with a sensation of sand in her left eye; there is now profuse lachrymation, with great itching; no intolerance of light; the pupil is largely dilated, and very sensitive, the palpebral conjunctiva, semilunar fold, and caruncle are very fluid, villous, with slight stringy discharge on the lower lid, which comes away easily, but forms again in a few minutes; there is no pain, except at night, nor constitutional disturbance complained of; but the tongue is swollen, flabby, coated with yellow fur.

R. Calomel iij., Rhei. gr. x. ij. II. fiat Bolus.

And wash the eye with tepid water.

Next day the conjunctiva covering sclerotic was greatly congested, vessels of bright red with slight ecchymosis, as if they had given way in some places, profuse lachrymation, with stringy, mucous discharge from both eyes. Dr. Lees dropped the undiluted liquor plumbi into the eyes; it gave no pain; it was continued on the third day, she was nearly well, and, with bark and magnesia, she was quite cured in a week.

There was generally but little or no constitutional disturbance, in some there was slight catarrhal fever. The disease was, however, very liable to relapse more than once, and then became always more serious and intractable, particularly in strumous subjects, in whom it invariably became pustular, with a ferretty condition of eye, and great intolerance of light. It was contagious, for almost every adult who was occupied about these children suffered from its effects; but in them it generally assumed a more serious aspect, being more painful, and attended by severe chemosis.

The Report exhibits the good effects of the undiluted liquor plumbi.

SIR PATRICK DUN'S HOSPITAL.

DR. LENDRICK'S CLINICAL REPORT.*

It is a good thing sometimes to give up Physick.—"It has long been my opinion, that the efficacy of treatment, in many chronic cases of disease, is misunderstood; and I have ventured to broach a theory which I think is confirmed by several facts, while it proposes the advantage of accounting for some extraordinary occurrences, and I allude to the operation of medicine, in saturating the constitution; and not only not relieving, but aggravating disease *during* its exhibition; although, on its administration being relinquished, the beneficial effects begin to appear. That this takes place, with respect to the administration of mercury, in venereal and some other diseases, is unquestionable. I think the principle may be extended to numerous medicines, and cases. That the disease does not subside *spontaneously* is proved by the circumstance, that, while formerly left to the efforts of nature, it became aggravated. That medicine generally succeeds better, in chronic diseases, by being occasionally laid aside and resumed, than by continued perseverance in its use, is a fact well known.

If this principle, that remedial treatment sometimes develops its effects slowly and subsequently to, instead of during a course of medicine, should be established by further experience, many difficulties connected with medical practice will be accounted for. We shall cease to be surprised, that after the efforts of experienced physicians have disappointed expectation, some empirical practitioner or inert medicine should *seem* to effect the cure; and many of the feats

* Dublin Journal, March, 1841.

accomplished by homœopathsists, or attributed to imagination, may thus admit of solution."

We have observed that patients are generally better on giving up physic that does not suit their case. When it *does* they had better go on with it. Dr. Lendrick is a wag and will understand this.

2. *There is something in Animal Magnetism.*—"Animal magnetism is by most of the Medical profession considered to be an imposture. I am, however, convinced, that in some cases a nervous influence exists between operator and patient, at least at a few inches distance; this conclusion I formed from witnessing our hospital experiments made on the *male* patient, *behind*, and under circumstances that precluded any suspicion. The opinion that a nervous *aura* exists beyond the material structure of nerves, has been held by some of the first modern physiologists."

"Future investigations must determine the extent of the operation of animal magnetism, and how far it can be rendered a remedial agent. To assert, without examination of the facts, that the system *must* be false, is unworthy of men of science; the same mode of reasoning, if it deserves the name, might have been applied to most discoveries. I confess however, that I have not had opportunity, either at Sir Patrick Dun's Hospital or elsewhere, of determining the question of animal magnetism further than that there is *something* in it."

What that *something* is, we think we can tell the Doctor—it is just—*humbug*.

3. *Moxa.*—"The utility of moxæ, and the preference to be afforded to them rather than other modes of forming issues, were confirmed during my recent attendance at Sir Patrick Dun's Hospital. In a case, that of flood, admitted November 15th, labouring under what is termed '*morbis coxæ senilis*,' the effect of a severe fall, with shortening of the limb and infirmity; and in those of Mrs. Dolan and Mrs. Carolan suffering from obstinate sciatic neuralgia, the beneficial operation of moxa was especially remarkable. I have often tried the caustic issue in similar cases, but without equally beneficial results. There is something in the action of *fire*, of which farriers and other humble practitioners (of whom the learned might sometimes take a useful lesson) are fully aware.

Moxæ are applied at Sir Patrick Dun's Hospital by soaking the lint, of which they are formed, either in a saturated solution of *chromate* of potass, or in a solution of acetate of lead of the strength of about a drachm to the ounce of water; either of the solutions answers the purpose, and the opinions of the pupils were divided as to their relative advantages. The great point to be attended to is, to leave the moxa long enough on the part; this is determined, not only by the dark and shrivelled appearance of the skin surrounding the base of the moxa, but also by the *diminution* of pain on the sensibility of the surface being destroyed by the full accomplishment of the burning process. A piece of lint, dipped in water of caustic ammonia, immediately applied, as recommended by Baron Larrey, much mitigates the pain consequent on the application of the moxa; I question whether, on the entire, the suffering is as great as that from a caustic issue; the benefit derived is generally so considerable, that however the application of the first moxa may be dreaded and objected to, that of the second is often practised at the solicitation of the patient."

It is clear that the Dr. is a fire-worshipper, if not a fire-eater. We never saw a patient who asked for the second moxa, but many who have run away from it.

Nauseous Physic.—"I have for some time endeavoured to render medicine palatable without being inefficacious. This object is easily effected in the case of pectoral medicines, on account of the mucilaginous and syrupy ingredients which generally enter into their composition; as to others, the nauseous flavor may, in general, be much lessened by administering them in the state of *effervescence*.

During the present medical session I made several trials at Sir Patrick Dun's Hospital, with the above object. Astringent medicines in diarrhœa can scarcely be used in the state of effervescence, on account of the flatulence thus produced.

The ordinary chalk mixture I have often found to disagree with the stomach, and it does not seem to be of much efficacy, except in some cases, as a counteracter of acidity; I accordingly substituted a mixture, formed of syrup of orange, tincture of kino, tincture of rhatany, and a small quantity of laudanum. This, which was sportively named by some of the pupils "*syrupus mirabilis*," was found very effectual in cases of diarrhœa; and the patients declared it to be cordial and invigorating.

The producing the opposite state, that of purging, otherwise than by disagreeable means, is not at all so easy a matter. Most purgative medicines are very unpalatable; or, if the concentrated principle, such as that of croton oil, scammony, elaterium, &c. be brought to bear, severe griping and sickness are produced, at least in some constitutions. I have administered croton oil successfully in many cases, not only by diffusing a minute quantity throughout purgative pills, but also by mixing it with spirit and mucilage, and exhibiting it in quarter drop doses, with milk, as directed by Dr. Conwell. On the entire I prefer, for general use, two aperient pills, administered every three or four hours, and after each dose, a seidlitz draught: for the former any of the usual formulæ may be used, and I have found *melampodium* a very useful adjunct. Where patients have a dislike to pills, senna mixture may be administered in effervescence. In hospital practice enemata afford ready means of effecting our object, after the failure of medicine given by the mouth. Although the prejudice against that description of remedy long impeded its use in private practice, except in case of downright necessity, it can now be so readily self-administered, or used by domestic means, that patients rarely object to it. In one hospital case, the necessity of using purgative medicine was considerably superceded by allowing the patient preserved tamarind pulp as a refreshment. Combinations of this, manna, honey, &c. are frequently used in nursery practice. There is no doubt that many palatable drinks (like the French ptisans) might be made to answer the two-fold purpose of beverage, and of aperient medicine."

Teetotalism—Small Beer versus Tea and Coffee.—"A man named Keegan, about 40 years old, was admitted into Sir Patrick Dun's Hospital, labouring under symptoms resembling delirium tremens. He suffered lately from epileptic fits, and his state appeared to border on insanity. His illness had commenced some months since, shortly after relinquishing habits of intoxication, and joining the Teetotal Society. He displayed much incoherence during his sojourn in the hospital, and left it in a few days seemingly in a state of derangement.

The question seems to be undetermined, as to how far intemperate habits can safely be relinquished *at once*. The balance of evidence is certainly in favour of the attempt proving successful; although the above case, and that of Burns, with the reports of some of the continental lunatic asylums, might lead to a contrary inference. I confess, however, I do not see the grounds on which the advocates of abstinence from strong liquors rush into the opposite extreme, and recommend the consumption of tea and coffee, articles which have nearly done as much to undermine the health of one sex, as the use of strong liquor has impaired that of the other. Besides their own injurious effects, they lead to the baneful practice of opium-eating. What objection have teetotalists to good table-beer, a home-made article, much more wholesome, and cheaper than tea or coffee?"

Teetotalism is certainly another of the humbugs of the day. There is, however, this excuse for it. Being got up for the uneducated classes, it *must* be extravagant, to catch them. The fanaticism of intoxication is met by the teetotal fanaticism.

SPIRIT OF THE BRITISH AND AMERICAN PERIODICALS &c.

GANGRENA SENILIS, OR POTT'S GANGRENE.

IN the first number of a new cotemporary (*Edinburgh Monthly Journal of Medical Science*.) Mr. Syme has published some surgical cases, of which we shall here notice the subject at the head of this paper. The gangrena senilis has been too often considered one of the opprobria of physic, as well as of surgery. It is generally fatal, under the ordinary treatment of stimulants, nourishing diet, and opium. The age of the patients, the circumstance of the vessels having been often found ossified, the great debility of the subjects, and other circumstances, have naturally led practitioners to adopt the stimulating treatment: but it has not been successful, and Mr. Syme has, we think with much judgment, tried a very different practice.

"Although the local soothing plan advocated by Mr. Pott alleviates the patient's sufferings and delays the progress of the disease, it never, in any instance that has fallen within my observation, proved sufficient to arrest completely the morbid action. In order to attain this more important object, it is necessary to lower the tendency to excitement throughout the system, by enforcing a strictly vegetable diet, abstinence from every sort of stimulant, and the maintenance of perfect quiet in the horizontal posture."

Mr. Syme is aware that this plan is likely to meet with opposition, both from patient and practitioner, as it runs counter to the prejudices of the one, and the theory of the other. But, in cases so avowedly hopeless, it is our duty to abandon established routine, when it is found to be so generally ineffective. We shall abridge the first case which Mr. Syme has adduced.

Helen Byres, aged 57, but appearing very much older, was admitted into the hospital, 26th January, 1840, complaining of severe pain in her left foot, especially the great and little toes. The instep was red and somewhat swelled—little toe black, and great toe of purplish dark colour. She attributed her complaint to exposure to cold, and the pressure of a shoe. She had been a week in hospital before Mr. Syme's notice was attracted to the case. During that time she had wine, nourishing food, &c. but the malady progressed.

"Having ascertained the nature of the complaint, I did not hesitate to order a strictly farinaceous diet, water for drink, and a simple poultice for the foot. The symptoms then gradually abated, and the patient, instead of sinking under the united effect of disease and weakness, as she had previously threatened to do, acquired additional strength, and greatly improved her appearance. In the beginning of March the little toe separated at its metatarsal joint, and about three months afterwards the great toe did the same. The sores healed kindly, and presented on each side of the foot a no less seemly cicatrix than if a skilful amputation had been performed. The starving plan was then abandoned; and the poor old woman, after subsisting on bread and water for upwards of four months, was allowed the usual diet of the hospital."

While we assent to Mr. Syme's experiment of treating the gangrena senilis, or gangrene of Pott, we must say that the case above narrated does not appear to be a severe example of the disease, but rather one of chilblain, or frost-bite in an aged, weakly, and bad constitution. The following passage is worth extraction, as most surgeons must have met with examples of the same kind.

"In illustration of the treatment which it is my present object to recommend, may be mentioned a case by no means rare in private practice. The patient is usually a man in easy circumstances, somewhat addicted to the plea-

tures of the table, and beyond sixty years of age. Without any warning he observes a small pimple on his leg. It opens and leaves a small sore, which, instead of healing, becomes covered with a slough, generally of a black colour, but sometimes white. The surrounding skin now inflames to a small extent; pain gradually increases, and is felt most severely at night, so that sleep is disturbed or prevented. The system then becomes seriously deranged, and the local affection still increasing, there is no limit to the morbid process except death itself.

The tendency to mortification in this form of disease, just as in that so well described by Mr. Pott, leads practitioners to the employment of invigorating measures. And I have uniformly observed, that whether the patient was stimulated by an additional allowance of food and wine, or was permitted merely to continue his ordinary diet the sloughing action prevailed in opposition to every sort of soothing application that could be tried locally. But when the starving plan was adopted, and the patient restricted to vegetable articles of support, the redness has quickly disappeared, the pain has gradually decreased, and the sloughs, ceasing to extend, have been detached from a subjacent healing surface of granulation, which before long formed a sound cicatrix. The only means employed on such occasions, in addition to the vegetable regimen, have been linseed poultices, and the muriate of morphia given freely, either solid or in solution, so long as the nocturnal pains continued. It may be added, that no inconvenience has ever been sustained, to my knowledge, either from adopting the spare system, or resuming the ordinary one, even when the age of the patient was beyond eighty years.

We return Mr. Syme our thanks for this useful and practical hint. Other cases will be noticed in our Clinical Review.

LARYNGISMUS STRIDULUS.

Dr. Henderson, of Edinburgh, has written a paper in the first number of our new contemporary, (*Ed. Monthly Journal*), on the above subject, chiefly as a critique on the late Dr. Ley's work on the same subject. It is unnecessary to notice Dr. H.'s criticisms, as very few practitioners in this country look on Dr. Ley's theory as more than ingenious physiological romance. The following fact is interesting.

A female, aged 52, was admitted into the infirmary, 27th August, 1839, who had become affected with a cough and difficulty of breathing, five weeks previously, after working in a damp place. The dyspnoea had increased three weeks before admission, with pain in the front of the neck. At the time of admission, the respiration was stridulous, with prolonged inspirations—pain on pressure in the throat—barking cough—scanty expectoration—pulse 108, and small. Twenty-four leeches to the neck. 28th. The breathing is calmer, but of the same character—painful deglutition—pulse 144. Venesection to sixteen ounces. Calomel and opium. 29th. Blood buffed—dyspnoea increased. Tracheotomy, was performed by Mr. Syme, with immediate and great relief. She lingered till the 5th September, when she expired.

Dissection.—A considerable quantity of thin puriform matter was found infiltrated into the cellular tissue behind the pharynx and œsophagus, and along the inner aspect of the carotid arteries, enveloping the recurrent nerves of both sides, so that the whole cellular tissue in front of the vertebræ, behind the œsophagus, and between the sheaths of the carotids, was occupied with pus. The larynx was sound; so was the trachea, and neither of them was compressed by the effused matter. There was some purulent effusion in the lungs.

"That the difficulty of inspiring in this case resulted from an obstruction in the glottis, is abundantly evident, both from the descent of the larynx at every attempt to expand the lungs, and from the relief which followed from the opening of the windpipe. That a rigid contraction, or spasm, of the laryngeal muscles was the immediate cause of this obstruction, is proved by the circumstance that expiration was not entirely unobstructed, as appears from the noise emitted from the larynx during the passage of the air outwards, an occurrence which is the reverse of that which happens when expiration is free, as in the case of paralysis of the muscles of the larynx: and it is also further proved by the nature of the cough, and by the acuteness of the voice."

OPERATIONS FOR STAMMERING.

The surgical cure for squinting has been followed by the still more extraordinary operation for stammering. We shall, on the present occasion, merely place before our readers the two following articles, to which a third might have been added from the pen of Mr. Bennett Lucas, who performed the operation in question, and with apparent success, at the Free Hospital, Greville Street.

STAMMERING.

To the Editor of the Medical Gazette.

SIR.—I beg to submit to your notice a brief statement of my recent proceedings relative to the cure of stammering, premising that I am at the present time actively engaged in collecting materials for a more lengthened explanation of my views upon the subject.

In the practice of my department of the profession, it has been usual with me to explore the condition of the mouth and pharynx in every case of deafness committed to my care. I have thus discovered that a large number of patients suffering from deafness are affected with enlargement of the tonsil and uvula, and an irritable condition of their investing membrane and the pharynx generally. It has been my constant practice, when I have considered these states at all contributing to the imperfection in hearing, to remove either the tonsils or the uvula, or portions of both, according to the nature of the case, with the most marked and immediate benefit, as far as the hearing may have been concerned. In December last it occurred to me to operate in this manner on two patients. They were, at the time of treatment, so deaf, that I did not then address my questions particularly to them, but to their parents, so that I was unaware of any impediment to speech in these instances. Some time after, as the cure of deafness advanced, I learned from the parents that both children had been stammerers from infancy, and, as much to my surprise as gratification, that the cure of stammering had ensued immediately on the excision of the tonsils. At the time at which I write, the subjects of both these cases remain free from any impediment, though their stammering previously to the operation is represented to me as having been very decided. I had before this remarked that persons with enlarged tonsils were affected with thick and imperfect speech, for which I had often, during the last year, practised excision with the happiest effect, in restoring the voice to its original clearness. Since the cases above-mentioned, I have operated on upwards of forty persons, all of whom have immediately felt themselves relieved of their impediment. Many have seemed wild with joy, or have shed tears of pleasure, at the instantaneous restoration they have enjoyed. After the operation, the difficulty of speech which remains is referred by the pa

tient to the lips; they express themselves entirely free from the original difficulty. Something must be allowed for the long misuse of the organ of voice, and the existence of habit, in rendering the voice less perfect than in the natural state. In fact, after their relief, patients have yet to learn the proper use of the vocal apparatus.

I have performed the operation by means of a scalpel, tenaculum, and scissors, without any serious hæmorrhage, and with a small amount of pain, which has appeared somewhat greater in the case of the uvula than the tonsils.

In reflecting upon the subject, the explanation I have at present to offer is, that to produce stammering, the *dorsum lingue*, the palatine arches, *velum palati*, and uvula, approximate together so completely, and perhaps irregularly, as to leave no room for the expulsion of air from the larynx. In a person who stammers, no air issues from the mouth during the abortive effort to speak; but it does so as soon as the patient is relieved from this state, so as to produce sound. The most violent contractions of the abdominal muscles can be seen attempting to force up the diaphragm and expel the air; sometimes all the respiratory muscles, and even those of the body generally, are thrown into violent spasmodic action, as the individual grasps some near object to assist the expulsive effort. In some cases, when there is nothing abnormal about the tonsils or uvula, I find a great congenital narrowing of the entrance from the mouth to the pharynx.

I submit that the operation, which I believe I am the first ever to have proposed or performed specially for the cure of stammering, relieves this malady by making, as I excise the tonsils or uvula, an opening in the valvular obstruction I have described as being formed by the joint agency of the tongue, palatine arches, and soft palate. You will perceive that the principle of my operation is quite different from that ascribed to M. Dieffenbach, and since practised, it is said, with success in France, by MM. Amussat and Phillips, and in this country by Mr. Bennett Lucas. This operation appears to me to rest upon the principle that the tongue is chiefly concerned in the production of the voice; whereas, I would inquire, does not this organ rather serve to modulate the voice after it has issued from the pharynx, &c. while in stammerers it is the fresh production of sound which creates the difficulty, rather than its subsequent modulation?—I am, sir,

Your obedient servant,

JAMES YEARSLEY.

29, Sackville Street,
March 9, 1841.

AN ACCOUNT OF DIEFFENBACH'S NEW OPERATION FOR THE CURE OF STUTTERING.—(With Case.)

To the Editor of the Medical Gazette.

SIR.—We have lately read, in the daily papers, several paragraphs from correspondents, concerning a new operation for the cure of stammering. The French papers have likewise furnished us with accounts of it. But it seems that the English journalists merely copied the French, who obtained their information from the German daily papers, which, indeed, stated the effect of the operation correctly, but described the manner of performing it very imperfectly, and without entering into the particulars at all, as I found on reading them three or four weeks since. The same remark has been made by M. Velpeau, in a discussion which took place at the Academy of Medicine on the 16th of February. It is, therefore, not surprising that the English and French journals should describe incorrectly the nature of the operation, and the manner of per-

forming it, as practised and originally proposed by its discoverer. It is to that bold and distinguished surgeon, Dieffenbach, who lately enriched surgery with that beautiful operation for strabismus (which I first performed in Great Britain, as is decisively evident from my publications, and the testimony of several periodicals,) that we are again indebted for the discovery of a cure for stuttering. On the 22d of last month I received from my friend, Professor Dieffenbach his memoir on this subject, as addressed to the Institute of France, and dated the 31st of January, 1841. From the information obtained from this source I was enabled to perform this new operation according to the rules laid down by him, an account of which operation, as well as the leading points of the professor's letter to the Institute, are laid before the profession in the following paper; and if you can find room for it in the next number of your valuable journal, you will greatly oblige, sir,

Your obedient servant,

19, Golden Square,
March 9, 1841.

AUG. FRANZ, M.D.

Professor Dieffenbach says, in the above-mentioned memoir, that "the infirmity of stuttering had long engaged his attention, but its probable cure suddenly occurred to him while a patient who had come to him to be operated on for strabismus addressed him with stammering accents. He was led to the idea of removing this impediment by an operation, from observing that the nervous twitchings of the eyelids, and spasms of the muscles of the face, which frequently accompany squinting, immediately disappear after the division of the muscles of the eye. He had frequently seen that by dividing the *frænum lingue*, in cases where it was too much tied down, as also by other operations on the tongue or on the soft parts situated at the back of the mouth, some improvement was obtained in those cases where there was a slight hesitation in speech, but never in actual stuttering. He therefore reasoned that in this infirmity the disturbance in the mechanism of speech must originate from a dynamic cause; viz. from a spasmodic state commencing in the trachea, but more especially in the *rima glottidis*, from whence it extends to the tongue and the muscles of the face and neck: consequently he came to the conclusion that an interruption of innervation in one of the parts affected might be followed by an alteration of the nervous influence, and therefore by a suspension of the disturbance in the mechanism of speech. He thought that this alteration would be most certainly obtained in the nervous action of the vocal organs, by dividing the root of the tongue right across, and through its whole thickness; for doing which he has proposed three different methods:—

1st. The horizontal transverse section of the root of the tongue;

2d. The subcutaneous transverse section of the root of the tongue, with preservation of the mucous membrane:

3d. The horizontal transverse section of the root of the tongue, with excision of a portion in the form of a wedge.

The professor has operated in two cases according to the two first and more easy methods, but finding that although the patient was able to pronounce a few words without stammering immediately after the operation, yet on its recovery the impediment was not entirely removed, he does not speak in such high terms of these as of the third method. According to the latter he has performed fourteen operations: the earlier cases, he states, are perfectly cured not only of the stammering but also of the spasmodic contractions of the muscles of the face, neck, and thorax, and the latter cases promise an equally favourable result. He therefore pronounces this method of performing the operation, notwithstanding its severity, as far superior to the two former, 'since by cutting out a transverse portion of the tongue the alteration of the nervous action on the vocal organs must be more decided; the tongue likewise becomes shortened,

and its tip turned upwards, which latter circumstances has always been considered as contributing materially to the removal of stammering.'

The professor further hints, that 'in selecting a case for this operation, the greatest circumspection is required; that in the execution of it, great dexterity and quickness are necessary, on account of the situation of the tongue, and the enormous hæmorrhage which of course takes place: and that in the after-treatment peculiar care is to be observed. If a strict attention is not paid to these circumstances, this operation, which inflicts so great a lesion on an important organ, may either be followed by destruction of the tongue, or even by loss of life.' The first operation for the cure of stuttering was performed by the Professor on the 7th of January, 1841, on a young gentleman 13 years of age, and was followed by a perfect cure. In this case, he excised a piece, of the shape of a wedge, from the root of the tongue, being three-quarters of an inch at its superior part, and extending through its entire thickness. I shall not enter here into the details of the operation, as they will be seen from the following case, operated upon by myself, according to Dieffenbach's third method.

Case.—George Read, 17 years of age, of a strumous habit, but otherwise strong and healthy, except an herpetic eruption upon the lips, with which he has been afflicted some time. His parents, brothers, and sisters, were not afflicted with any impediment in their speech, neither was the patient so up to his father's death, which took place eight years ago, and made such an impression on his mind, that immediately after its occurrence he began to stutter. This infirmity, according to his mother's account, has gradually increased up to the present time; so that now he is scarcely able to speak, even to his own family, without great hesitation, though composed and free from excitement in mind and body. He, however, succeeds best in expressing himself by singing in a high pitch what he has to say. When he is in the slightest degree agitated, he can with difficulty stammer out one or two words only, and then his speech becomes convulsively interrupted, and, ultimately, entirely stopped; but when in the least excited, if he attempts to address a stranger, speech entirely fails him. When he first called on me, with his mother, his countenance exhibited the utmost degree of melancholy, the result of this trying calamity. His palate is highly arched, and rather narrow; his tongue could be well raised, and freely moved in the mouth. He aspirated all the vowels, and pronounced them thus—h-h-h-a, whe, whi-hi, who-h-o-o, whu-h-u-h-u; consonates whose pronunciation commences with a vowel, he pronounced thus—hbell, hheff, hness, &c.; the other consonants he pronounced with more or less difficulty; but d, t, b, and p, he could not pronounce at all. When he attempted to speak, he thrust his head forwards; moving it from side to side; his lips were drawn together, and protruded: and the muscles of the mouth, at the same time acting convulsively, drew them in every direction. The *alæ nasi* moved as in a paroxysm of dyspnœa. The eyes started forward, and began to water. The muscles of the face were in convulsive motion, as also those of the neck, although in a less degree. The larynx was drawn upwards. His mother informed me that, when in this state, he experienced a sensation of rigidity of the tongue, and as if it were too large for his mouth; as also of constriction of the muscles of the neck, but more especially of those of the larynx. I wished to make him speak a few words; but while attempting to do so, his eyes protruded, tears ran down his cheeks, and the convulsive movements of the muscles of his face and neck, but especially of those of the mouth, became so violent, that he was obliged to desist. During the whole time he was with me, the only word he could in any way pronounce was the word no, which he did as if written thus—h-h-n-nh-o-o. As he was utterly unable to answer any question, I was obliged to have recourse to his mother, as interpreter, who knew from the motions of his lips what he wished to say.

On my explaining to them that a new operation for the cure of stuttering had been tried, and had succeeded in many instances, they readily consented to have it performed, as his stuttering to this dreadful degree, almost equivalent to dumbness, rendered him exceedingly wretched in mind, incapacitated him for business, and cut him off from all intercourse with any but his relatives.

On the 1st of March I performed the operation at the mother's house, in the presence and with the kind assistance of Dr. Ure, Messrs. T. Fowke and W. Hering, who before the operation satisfied themselves of the patient's utter inability to pronounce the simplest word. The patient was seated in a high chair opposite the window; his head being held in a perpendicular position by one assistant, who, at the same time, drew the angle of the mouth backwards by means of retractors. His tongue being thrust forwards was seized by a pair of strong forceps, (furnished with teeth to prevent them from slipping,) which I gave to another assistant to hold; by these means the tongue was steadied and compressed transversely. Having seized the tongue, posteriorly to the forceps, with the thumb and forefinger of my left hand, I compressed it transversely, and at the same time elevated it; then passing a long, curved, pointed bistoury, from the left side beneath the tongue, and at the posterior half, until I felt the point at the right side with my fore-finger, I cut directly upwards, dividing the tongue right through. I now grasped the tongue in front of the wound with a pair of long forceps, armed at the point with teeth, pressed it firmly together, and with a small straight scalpel made a section from above downwards, commencing on the dorsum linguæ about half an inch anteriorly to the division already made, and meeting it inferiorly; by these two sections a piece of the shape of a wedge was cut out of the tongue at its posterior half. The wound was now united by six ligatures of thick silk, which were passed in such a manner as to encircle in depth and breadth a considerable portion beyond the margin of the wound, and were forcibly drawn together in order to restrain the hæmorrhage; this was so far successful that only a slight oozing continued for a short time. That the loss of blood during the operation was very considerable is not to be wondered at, when we consider the size and number of the blood-vessels divided. The patient bore this severe operation well, but became rather faint towards the termination, and afterwards vomited large quantities of blood which he had swallowed. As soon as he had washed his mouth with a little water, I was exceedingly pleased to hear him pronounce words which, previously to the operation, he was utterly unable to articulate; such as time, powder, &c. without the slightest hesitation or stammering, and without any twitchings of the lips, or even convulsive movements of the muscles of the face or neck, and immediately afterwards I was surprised by his saying with facility and distinctness, "there is some blood running down my shirt." He was now put to bed, and desired to be kept quiet, and directed not to be allowed to speak, and to have his mouth kept cool by means of cold water. On my calling in two or three hours time I found the case proceeding favourably; no re-action had as yet taken place.

March 2nd.—The patient had slept well during the night. Some febrile action towards night; pulse 120, but skin moist. On examining the mouth I found the tongue somewhat swollen and discoloured: he complained of no pain, but only a feeling of heat in his mouth: there was a great secretion of saliva and mucus, and some difficulty in swallowing. He took, during the day, a good deal of beef tea, and towards evening a dose of castor-oil. Was ordered to continue the application of cold water to the mouth.

3d.—He passed a very good night; was almost free from fever. The pulse had fallen to 95. Tongue rather more swollen; not painful, but thickly covered with a brown substance. To take a saline mixture every three or four hours.

4th.—Still going on well. Pulse 80. I now removed two ligatures, and found that union had taken place.

5th.—Swelling of the tongue greatly abated; but the copious secretion of saliva and mucus still continuing as before. He was now able to swallow liquids with but little difficulty, and was so far recovered as to sit up for a short time. He spoke a sentence or two without the slightest hesitation or stammering, and without any convulsive motions of his lips or face. The remaining four sutures were removed, after which, by cleaning the mouth with some water, a great deal of the brown substance before mentioned came off, leaving the mucous membrane perfectly clean and healthy; in the neighborhood of the wound, however, it remained adhering to the tongue.

7th.—The tongue still continues clean; can be moved freely, but not without some degree of pain: speaks without stammering.

9th.—Has for the first time taken a walk in the open air. The movements of the tongue less painful. The mother gives a favourable account of the progress of his speech.

Perhaps it may be as well to state that the muscles divided in this operation are the lingualis, the genio-hyo-glossi, the hyo-glossi, and the stylo-glossi.

I think, previously to undertaking this operation, we ought to consider well whether the nervous system of the patient is sufficiently strong to stand so severe a shock—whether he will, from age or constitution, be able to bear so considerable a hæmorrhage as that which is here inevitable; and it would be advisable likewise to ascertain that the heart and large blood-vessels are in a healthy state. The further remarks I had purposed to make on this important operation will be appended to another paper, in which I shall, on a future occasion, communicate to the profession the final result of the above case, as also the first and second methods of performing Dieffenbach's operation for stuttering, which I have not yet described. But I cannot conclude this account without returning my thanks to my friends, who took great interest in this case, and kindly assisted me through it.”*

PROTRACTED GESTATION.

In a communication of some “cases in legal medicine” to the American Journal of Medical Sciences, by Dr. Beck, we find the following.

Case —Mr. and Mrs. G—— are Polish exiles of excellent education and morals, and highly esteemed among their acquaintances.

Sometime in February, 1840, Dr. Manley was requested to take charge of Mrs. G., as she expected to be confined about the 10th or 15th of April ensuing. She had previously been his patient, having treated her for hæmoptysis. On the 7th of April, however, he was sent for to prescribe for another and violent attack of the same complaint. She was bled twice largely, kept on a low diet, absence from all stimuli, even light, &c. for about three weeks, in the hope that her daily expected confinement would be her chief security against the ordinary consequence of her disease, viz. consumption. The treatment was successful, the cough and hæmorrhage ceased, but the parturient effort was deferred until the 29th May.

This circumstance created much surprise and anxiety in the minds both of her friends and her physician. The latter, upon close inquiry, satisfied himself of

* Med. Gazette, March 12, 1841.

the following facts. 1. Her husband had left her on business on the 13th of July, 1839. 2. He did not return until the last of November. 3. During the first three months of pregnancy, she was twice unwell or menstruated, but as she was 39 years old, and had borne six children, and the amount was trifling, she, in place of deeming herself pregnant, thought it furnished evidence of the approaching cessation of the function, and particularly as the ordinary accompaniments of previous pregnancies, viz. sick stomach, toothache, &c., were altogether wanting: but 4. On the 30th of November, she felt quickening, which, allowing four and a half months for the mean time of the appearance of that sign, made her reckoning for the 15th of April correct. 5. On the nights of the 12th and 13th of December, she was attacked with hæmoptysis, for which Dr. Manley treated her by bloodletting and the negation of stimulants and nutrition, and was successful. The occasional hæmorrhage continued however for nearly three weeks. 6. On the 7th of April, as before observed, she was again seized and treated successfully. This was a violent attack, and the treatment was carried to a greater extent than before.

"About the 16th of April, having occasion to leave home, I put the patient under the care of my friend Dr. Duvall, in whom I could place the utmost confidence, believing that she would be confined every hour, as she complained of pains, which I presumed were premonitory, though not parturient. When I returned after an absence of three days, I found things as I had left them. She complained of much uneasiness *in perineo*, and told me that Dr. D. had ordered an enema, which could not be administered from inability to insert the pipe of the instrument; said that she was sitting upon the child—that if she got up and again sat down, she felt unpleasant, as if something was pressed upwards. About the first of May, so much anxiety was manifested by her friends, that without my knowledge, Dr S. was requested to visit her, and after examining into her condition, was sufficiently satisfied to pronounce that she was not pregnant *with a child*, although she might have hydatids or a mole *in utero*. As soon as I was informed of the opinion, I lost no time in satisfying myself concerning her condition. I made a thorough examination by auscultation and the sudden application of the cold hand to the abdomen. The result was such as could not deceive, and I pronounced her pregnant and near delivery, which might take place within two hours, as the head of the child rested, I may almost say, on the perinaeum, and the os tincæ was dilated larger than a dollar. The head was so wedged, that every attempt to pass by the side of it produced excessive pain, although the patient complained of nothing but pain in the pelvic region. This particular examination was made about the 6th or 8th of May. She continued in this state, enduring more or less pain every day, till the 29th, when she was happily delivered of a son weighing 9 3/4 pounds."

There was nothing peculiar in her parturition, except that it was a forehead presentation, and the cord was so convoluted, and entangled the child so much, as to leave but seven or eight inches of its length, being twice round the neck and once round the abdomen. When the waters burst, they came away with a great deal of meconium—calculated to lead to the impression, that there were twins in utero, and that the membranes of each had ruptured. The posterior fontanelle was obliterated, and the anterior was very small, not exceeding the size of a five cent piece. The child was remarkably strong, and the papillæ of what is denominated red gum, were in many places marked by yellow points, as is usual, when children are a week or more old. The labour was short, but excessively painful, by reason of the presentation, and the placenta was detached at the time of birth.

After inquiring—can diseases, or the treatment necessary for their cure, have an influence in protracting the term of gestation? Dr. Manley argues in the affirmative, and concludes that it appears that Mrs. G. carried her child 10 months and 13 days: but this admits of easy explanation, if we allow the treat-

ment which was rendered necessary during her two attacks of hæmoptysis to have had any agency in suspending the process of foetal growth and uterine evolution, for after all is said, it is not certain that any other cause than the maturity of the foetus determines the natural period of gestation.

He asks a second question,—may not protracted gestation be often confounded with protracted parturition, and be the cause of many of those anomalies which the subject of gestation presents? This too he answers in the affirmative, and continues—The appearance of the child at birth; its size and weight: the obliteration of the posterior fontanelle, and the very small aperture of the anterior one; the appearance at birth of that peculiar eruption denominated the red gum, (*strophulus intertinctus*), and the matured character of it, for the vesicles were filled with an opaque yellow serum, all render it probable that the infant was detained in utero beyond the usual time. He adds—

“I instituted no special examination, till I was informed that a surgeon had visited my patient and pronounced that she was not pregnant with a child.—It was early in May that I made this examination, and I found the *os uteri* much dilated and the head of the child resting in *perineo*: no labour pains had been felt, nor did pains of any kind which could be mistaken for labour occur till the morning of the 29th of May, about three weeks afterwards. The labour, however, was a painful one and continued five or six hours, which I attributed to the position in which the child presented. If the presentation had been of the vertex, I doubt not that she would have been confined in a short time and with little suffering; and I cannot doubt, that but for the same cause, she would have been delivered three weeks before. In this event, neither her labour, nor her gestation would have had any extraordinary features, but would have passed, either entirely unnoticed, or would have attracted very little attention.”

The case is an interesting one, and we leave it to our obstetric friends. It bears on a very important point of jurisprudence.

REMARKS ON THE SOURCES OF HÆMORRHAGE AFTER LITHOTOMY. By JAMES SPENCE, Surgeon; Assistant-Demonstrator of Anatomy in the University of Edinburgh, &c.*

Mr. Spence's paper is likely to be of service. It exhibits the anatomical distribution and varieties of the vessels that *may* bleed in lithotomy, and sets the modes in which the hæmorrhage may happen in the very clearest light. His dissections have been confined to the parts concerned in the lateral operation, and, during the last three years, he has made seventy-three for this purpose. He begins with the—

Internal Pudic Artery.

The pudic, in its normal course, can scarcely be wounded posteriorly. But as it passes forwards into the anterior part of the perineum, it gradually leaves the protection of the ramus of the ischium, and where it gives off the artery of the bulb lies between the layers of the triangular ligament. This is the point where the pudic is in danger of being wounded by the gorget—the beaked knife, or lithotome caché, for in using these instruments, the surgeon, after inserting the beak into the groove of the staff, depresses the handle of the staff, and, by a simultaneous movement of his right hand, thrusts the gorget or lithotome along the groove. The consequence is, that the point of the staff being thus elevated, the cutting instrument is guided along it into the anterior and narrow portion

* Edinb. Monthly Journ. of Med. Science, No. III.

of the perineum, the prostate is divided transversely, and the pudic artery is in great danger of being wounded on withdrawal of the instrument.

The internal pudic was wounded by the celebrated Desault, who succeeded in tying it. Deschamps, however, seems to doubt that the wounded vessel was the pudic trunk. It was wounded in one case by the late Sir Charles Blicke, where Mr. Abernethy subsequently secured it by ligature. Sir Benjamin Brodie mentions having tied the pudic in a case operated on by the late Sir E. Home. Dr. Physic of New York wounded it in his first operation, on which occasion he used the cutting gorget; in this case the artery was also tied successfully. Mr. Lowe Wheeler mentions three cases in which he had seen this accident occur—one in Paris and two in London; in the first the lithotome *caché* was used to divide the prostate; in the other two, Blizard's beaked knife. Mr. Crosse of Norwich, whose experience and dexterity in this operation are well known, also relates a fatal case of this nature in his own practice.

"With such cases," says Mr. Spence, "before us, we should be exceedingly cautious in pronouncing any opinion as to the accident being the fault of the operator. It is, however, worthy of remark, that in all the cases mentioned, with the exception of that by Mr. Crosse, who does not give the particulars of the operation, the instrument used to divide the prostate were either the cutting gorget, Blizard's beaked knife, or the lithotome *caché*; the method of using which, and the danger arising from it, I have already explained. And after mature consideration of the surgical relation of the vessel, and of the cases in which it has actually been wounded, I cannot help thinking that if the operation be performed with the knife, the staff held steadily by an assistant from first to last, and the prostate divided obliquely downwards and outwards, wound of the pudic artery will be a rare occurrence indeed.

Irregularities of the Internal Pudic.—"I scarcely know of any variety which can be properly termed irregular distribution of the pudic trunk. The nearest approach to such a variety, of which I am aware, is preserved in the Anatomical Museum of the University, and is described by Dr. Monro, in his excellent work on the Pelvis. The irregularity is on the right side. The irregular vessel comes off from the internal iliac direct, passes along the lateral and inferior surface of the bladder, *pierces the ileo-vesical fascia, runs along the lateral lobe of the prostate*, and divides into three branches, one to the dorsum penis, and one to the crus, whilst the third runs along the membranous part of the urethra to gain the bulb. Another preparation somewhat similar is contained in the collection of Dr. Allen Thomson, professor of anatomy at Aberdeen, who kindly favoured me with a full description of it, from which the following is an extract:—"It is situated at first between the bladder and rectum, further down it appears to be on the side of the prostate, crossing it and the membranous portion of the urethra obliquely, before arriving at the subpubic arch, and quite below the anterior true ligament of the bladder; when it reaches the subpubic arch, the artery gives downwards a considerable branch, which soon dividing into two, sends one twig into each crus penis. The artery is then continued along the dorsum of the penis as far as the glans." In a subject which I dissected lately, I found a large vessel arising from the internal iliac in common with the obturator; it then passed along the side of the bladder, and over the upper surface of the prostate; on arriving near the pubic arch it pierced the fascia immediately external to the left anterior true ligament of the bladder, and divided into three branches; one entered the spongy part of the urethra about an inch anterior to the bulb; the other two branches were distributed, one to the dorsum, the other to the crus penis. If such an anomaly as that described in either of the two first mentioned cases, existed on the left side of a person who was to undergo the lateral operation, the artery must inevitably be wounded either in opening the urethra, or on dividing the prostate. In the case which I myself dissected,

the vessel would have been in no danger, for it lay completely above the line of incision, and on the upper surface of the prostate.

The variety described by Haller, Burns, Tidemann, Harrison, and others, which is frequently but erroneously termed irregularity of the pudic trunk, is merely a variety of its terminal branch, the dorsalis penis, and is comparatively common. In my own dissections, I have met with five cases, and I saw another during last autumn in a subject dissected by my friend Dr. Duncan. In all these cases, the course of the irregular vessel was precisely similar: it passed along the lower and lateral part of the bladder, then coursed obliquely across its neck, *above the reflexion of the ileo-vesical fascia*, over the upper surface of the prostate gland, and passed out at the pelvis between the anterior true ligaments of the bladder. From a consideration of the relative anatomy of this variety, I think it runs no risk of being wounded, if the operation be performed according to the method now generally recommended, viz, dividing the prostate obliquely downwards and outwards, leaving the neck of the bladder and the reflexion of the ileo-vesical fascia entire, because the vessel runs above the reflexion of that fascia; at least it has done so in every case which I have seen."

The artery in the case of the late Mr. Shaw, a very excellent anatomist and surgeon took the course described, and was cut, and gave rise to fatal hæmorrhage. But Mr. Shaw made an extensive incision, being of opinion that the whole extent of the left lobe of the prostate, and the fascia enveloping it, together with the neck of the bladder, should be freely divided to allow of the easy extraction of the stone.

The *branches* of the pudic are next alluded to.

1. *The Inferior Hæmorrhoidal*.—"In a few cases I have seen the vessel pass almost across the ischio-rectal space without dividing into branches; and as it must always be cut in lithotomy, I should think that in such a case it would bleed profusely, both on account of its own size and its proximity to the pudic trunk. I believe, however, that in most cases the artery could be readily enough secured, unless it be cut so close to its origin as to retract within the fascia, or its coats so diseased as not to hold a ligature, a state in which I have frequently found the hæmorrhoidals in old people; and Mr. Liston mentions a remarkable case of fatal hæmorrhage from this diseased state of the arteries."

2. *Superficial Perineal Artery*.—This is often cut, but, generally, ceases soon to bleed. "M. Roux has remarked, however, that if the surgeon, by lateralizing the knife too much, divide the artery near to its origin, it may retract within the opening of the fascia through which it passed, and by bleeding profusely simulate wound of the pudic trunk. M. Roux, indeed, is of opinion that this is what has happened in all the cases in which the pudic is said to have been wounded from lateralizing too much. Although I do not go so far as M. Roux, I yet believe that his opinion is correct to a certain extent; for when we consider that the artery is stretched during the operation by the scrotum being drawn upwards, we will perceive how apt it will be to retract within the fascia, if divided close to its origin."

3. *Artery of the Bulb*.—Mr. Liston is of opinion that this vessel is in no danger in lithotomy, if the incisions be properly made; but states that it is often cut from want of care; whilst Mr. Key states that although, in experimenting on the subject, he has in general been able to avoid it by cutting very low, he nevertheless believes the vessel must almost always be divided when operating on the living. Sir Charles Bell, after observing that this vessel is often needlessly cut, says, 'Yet it is not easy assuredly to avoid it.' Mr. Crosse thinks the artery of the bulb is frequently cut, and sometimes on both sides. He mentions a case

in which the artery on the right side was divided whilst the left was intact. M. Blandin admits that this vessel in many cases cannot be avoided.

"To satisfy myself more fully than I could by ordinary dissection, as to the risk of wounding the artery of the bulb, I performed the lateral operation six times during the session of 1839—40, on subjects previously well injected. In three of these the operation was performed with the curved staff and Mr. Liston's knife; in two with the straight staff; and in one with Scarpa's cutting gorget. In none of these experiments was the vessel actually cut; but in no case was there more than a few lines of substance between the anterior part of the deep incision and the vessel; whilst in one of the cases where the operation was performed with the curved staff, the artery had been just pushed up before the back of the knife, its lower surface being quite bare. From the proximity of the artery to the incision in these and many previous experiments, and from having observed in my dissections of the perineum that the artery of the bulb frequently lies little more than an inch in front of the anus, I am inclined to think that the vessel must be frequently divided in operating on the living. For we cannot well begin our incision lower in the perineum than fourteen lines in front of the anus, otherwise we are in danger of cutting into the groove of the staff through the substance of the prostate, leaving the membranous part of the urethra and the apex of the gland undivided, a circumstance which would cause great difficulty in the extraction of the stone. It may be asked, Why, then, is hæmorrhage so rare. I reply, because in most cases the vessel is divided near the bulb, at a distance from its origin. Again, in some cases the artery is small, and I have several times seen its place supplied by three or four twigs from the pudic. The frequency of wound of the bulb itself, (in which case this vessel must be wounded,) together with an instance related by Sir Astley Cooper, in which he arrested bleeding from the urethra, by cutting down upon and dividing this artery—are farther proofs that it may in some cases be cut without giving rise to profuse hæmorrhage. Indeed, I suspect the greatest risk of bleeding is where the vessel is only wounded, without being fairly cut across."

We quite agree with Mr. Spence. Nothing can be more certain than that cutting too low, to avoid the bulb and its artery, makes the operator liable to open into the staff through the prostate. This has happened to ourselves several times in operating on the dead body. On the other hand, if the incision be commenced fourteen lines anterior to the anus, what *security* can there be against wound of the artery of the bulb?

Irregularities.—"In a subject which I dissected in 1837, the artery of the bulb arose from the pudic as usual, but then passed almost directly backwards to near the anus, whence it again curved upwards to gain the bulb. I have also seen two cases similar to that described by Mr. Stanley, in which the vessel came off from the pudic posterior to its usual origin, ran immediately above the inferior margin of the triangular ligament, and then passed upwards to the bulb. It is evident that in such cases, and also where the vessel comes off from the irregular pudic trunk and runs along the membranous part of the urethra, as in the case mentioned by Dr. Mouro, of which I have already spoken, this artery must be divided in the lateral operation; and the existence of these anomalies sufficiently disprove Mr. Liston's sweeping assertion, that the artery of the bulb runs no risk, whatever be its course, if the incisions be made low in the perineum."

4. *The Prostatic Artery*, arises sometimes as a distinct branch from the internal iliac, but more generally in common with the vesical, or from the internal pudic, in the first part of its course, before it leaves the pelvis. "In the great

majority of cases the vessel passes along the lateral and inferior surface of the bladder towards its neck, then pierces the ileo-vesical fascia and gains the side of the prostate, on which it divides into numerous twigs, which supply that gland and the neighboring surface of the rectum. In such a distribution of the artery it is not likely to furnish much blood if divided: but in several instances I have seen the prostatic artery gain the perineal surface of the prostate without dividing into minute branches; and in eight of these cases the vessel was fully as large as the artery of the bulb, and would have bled profusely if divided, as it must inevitably have been in the lateral operation of lithotomy. The vessel was noticed by the older surgical authors. Douglas thus speaks of it, when describing the parts cut in Cheselden's operation—"When the prostate gland is divided near the rectum or back part of the pelvis, a large straight arterial branch can seldom escape the knife." Sharpe speaks of applying styptics to "the artery creeping upon the prostate." And more recently, Mr. Carpué speaks of "a branch of the internal pudical artery ramifying on the prostate," and states that he has known "several patients die in consequence of the division of this artery." This statement of Mr. Carpué was severely criticised by a gentleman who denied the existence of any such vessels, and who accused Mr. C. of mistaking the prostatic veins for arteries. Mr. Spence gives a sketch, which is somewhat foggy. We may add that, in two instances, in examining patients by the rectum (one was the subject of calculus,) we have felt a large artery pulsating upon the prostate. It appeared to us that the vessel could hardly escape in the lateral operation of lithotomy.

5. *The Prostatic Venous Plexus.*—It is only of late years that surgical writers have directed their attention to this subject, and even yet they do not seem fully to appreciate the dangers of bleeding from the large veins which are sometimes wounded in lithotomy. For even Sir B. Brodie, in his admirable work on Diseases of the Urinary Organs, in mentioning a fatal case of hæmorrhage from near the prostate says, "and what was remarkable, it was venous," an expression which would lead us to suppose that his attention had then, for the first time, been drawn to this kind of bleeding. Mr. Liston and Mr. Lizars, although they both notice the danger of bleeding from the prostatic plexus of veins, if wounded, seem to think that it should properly not be interfered with. I think this opinion must have reference only to the superior prostatic veins, which, commencing in the dorsal veins of the penis, form a net-work on the upper surface of the ileo-vesical fascia, and on the upper surface of the prostate. But if the plexus be moderately injected from the dorsal veins, and the perineum dissected in the manner recommended when describing the prostatic arteries, it will be found that a plexus of veins, (or in old men rather venous sinuses,) which may be termed the inferior plexus, covers the lower or perineal surface of the prostate. And it is evident that this plexus, from its position, must inevitably be wounded, in making even the most limited incision of the prostate gland. When we consider, moreover, that it communicates freely with the superior prostatic plexus, and inferiorly with the middle hæmorrhoidal veins, and remember the want of valves in these vessels, and their dilated form in old persons, I think it must be allowed, that in them at least, this plexus constitutes a formidable source of hæmorrhage after lithotomy. And of late years it has been noticed as such by Baron Dupuytren, Dr. Monro, M.M. Velpeau and Robert, the last of whom has recorded two cases of hæmorrhage from this source."

Thus the artery of the bulb and the enlarged artery of the prostate are the most likely sources of serious hæmorrhage. Mr. Spence has found during his investigations, three cases of irregularity in the artery of the bulb, and eight of the enlarged prostatic artery, so that in eleven cases out of the seventy-three

subjects dissected by him, these vessels must inevitably have been wounded. These facts, therefore, are sufficient to prove that hæmorrhage may sometimes occur without any fault on the part of the operator.

A very good paper.

TWO CASES OF ANEURYSM EXHIBITING THE NECESSITY OF A LIGATURE BOTH ABOVE AND BELOW THE TUMOUR. By W. E. HORNER, M.D. Professor of Anatomy in the University of Pennsylvania.*

CASE 1.—*Aneurysm from Venæsection—Ligatures above and below the Tumor—Cure.*

Miss B., of Georgia, ætat. 8 years, being exceedingly ill in March, 1837, was bled by a physician in the left arm, at its bend. Nothing unusual at the time was perceived, but in a week afterwards, she felt a small pulsating tumour, the size of a pea: it continued to increase, and she was brought by her parents to Philadelphia, and placed under the charge of Dr. Randolph, who called Dr. Horner into consultation.

At this time, September 27th, 1837, the tumour is about the size of a large filbert: has a strong pulsating motion which may be felt vertically; laterally; and also when the arm is bent, and the tumour pulled up from it. Pressure diminishes its size to one half; it then remains hard and unyielding. Pressure on the brachial artery arrests its pulsation. There is no thrill or purring noise as in varicose aneurysm; the vein which was opened at the point of bleeding, is not visible.

On the 29th of September, an operation was performed by Dr. Randolph, the course of the blood being regulated by a tourniquet on the arm. The skin was slit up for two or three inches in front of the tumour, which exposed the tumour beneath the fascia of the arm and the aponeurosis of the biceps; these being dissected through, the tumour was laid bare by continuing the dissection over its surface, so as to exhibit the brachial artery and vein both above and below it. A ligature common to the two vessels was then carried under them, above the aneurysmal tumour; it, upon trial, was found to control the pulsations of the tumour; it was then fixed, and the aneurysmal tumour cut open. Upon slacking the tourniquet, blood issued from the tumour freely; a ligature was then fixed upon the artery and vein below the tumour; upon loosening the tourniquet again, blood flowed from the tumour, but not so freely. The tumour was now detached still more from its bed; a knife-handle passed under its middle, and along it, one ligature conveyed above, and another below; these ligatures were directed in such a way as to insulate the tumour completely, by being tied above it and below it; the one below being drawn first was found to restrain the bleeding completely, but to make every thing secure, and to put the disease beyond any possibility of recurrence, the upper ligature was also fixed.

The vein which probably was the one that had been bled, was seen in front of the sac adhering closely to it; it appeared to be almost obliterated below, and was very small above. There was nothing like a varicose state perceptible in it: so that if it had really been punctured, the wound had healed.

The sides of the tumour were very thick, and indurated, which will account for its not being entirely flattened or collapsed by pressure before the operation, and there was no coagulated blood. Whether it was formed by a dilatation of the artery, or by a cyst on its side, was not ascertained, from the obscurity of the parts during the operation.

* Ibid.

The tumour sloughed off kindly in this case, and the wound healed by the 20th of October, the recovery being perfect.

We cannot help thinking that an operation might have been dispensed with in this instance. We treated one quite like it by compression with success. A small circumscribed aneurysm of the brachial artery may in a great many cases be so cured. The operation is severe, and should be avoided if milder means will answer.

CASE II.—*Varicose Aneurysm of the Femoral Artery.*—Operation followed by *Mortification of the Limb and Death.*—Col. P., of Florida, ætat. 30, stature 6 feet 2 inches, usual weight 170 lbs, while engaged in the service against the Seminole Indians, was wounded, April 15th, 1837, by a ball accidentally discharged from a pistol which he wore under his waistcoat. The ball was rather larger than a buckshot (say 80 to the pound.) It entered the left thigh two inches below, and a little within, the anterior superior spinous process of the ilium, and ranging very nearly in a line with Poupart's ligament, came out on the inner side of the thigh a little below the scrotum.

There was profuse hæmorrhage, estimated at from 8 to 12 pints;—the patient fainted immediately and continued insensible till the next day. An extreme swelling of the thigh followed—numbness and irregular sensations, with some slight bleeding at intervals afterwards.

July 8th, 1837. The left thigh has a strongly pulsating tumor just below Poupart's ligament, and in the course of the femoral blood-vessels; the tumor appears to be more than two inches in its transverse diameter, length not so discernible; its pulsation is arrested by pressure on the femoral artery above; also, by pressing on the artery at a point corresponding with the track of the ball, and where there is a sensation imparted of a hole in the artery; the femoral vein feels enlarged as it goes under Poupart's ligament, and has a pulsation in it. The superficial veins of the leg are smaller than usual, the saphena scarcely perceptible. To the finger the tumour has the thrill and vibratory motion of varicose aneurysm, and a stethoscope applied to it conveys a noise like that of a distant waterfall or mill race, broken in upon by a pounding corresponding with the beat of the heart, and intermixed with a loud quick purring like that of a cat going to sleep. It is extremely sensible to pressure; the extremity is useless; the patient's position is on his back, with the thigh in a state of semi-abduction, and brought a few degrees forward to loosen the parts at the groin.

The pulse of the wrist has a short globular stroke with a very distinct interval; a very strong pulsation is felt in the epigastric region extending to the umbilicus, a feeble wavy pulsation is also felt in the right femoral vein just at Poupart's ligament. The probability is, that the latter, as well as the epigastric pulsation comes from the arterial blood flowing from the left femoral artery into the vein, and thus giving a pulsation to the ascending cava and its branches. The patient was in a state of considerable emaciation, but in good spirits.

On the 11th, the femoral artery was tied immediately below the ligament of Poupart by Dr. T. Harris, assisted by Dr. Horner. The pulsation immediately ceased in the tumor, the epigastric pulsation also ceased, and that of the femoral vein of the other side; the pulse at the wrist made a longer and more sustained stroke.

The afternoon and evening were spent in high excitement and restlessness from violent pain flying to different parts of the limb and hip and finally settling in the incision, where the sensation was that of every thing tearing to pieces. The temperature of the limb was very low. The limb mortified below a line drawn obliquely six inches above the knee. On the 18th the mortification stretched beyond its previous boundaries, and advanced up the thigh. On the 20th, it was within a few inches of the groin. Then the scrotum was affected, and soon the gangrene reached the anterior superior spine of the ilium. On the

26th, the thigh was cut off through the mortified part, to diminish the *sætor*, &c. On the 30th the mortification seemed definitely arrested. It did not extend so high in the interior as on the surface of the limb.

On the 2nd of August, the ligature was cut away from the femoral artery, it being now the twenty-second day. "A whitish spherical tumor, an inch and a half in diameter, extremely sensible to the touch, but without pulsation, and which I had observed for a day or two, now attracted my attention particularly. I felt doubtful whether it was the aneurysmal tumor; a cyst containing matter; or a tumor formed on the course of the anterior crural nerve."

3rd. "Determined to explore the character of the tumor which had obtained our attention, I began to dissect from it the mass of mortified muscle at its inner side, and then made a puncture into it; a flow of arterial blood immediately followed. I passed my finger into the orifice to check the hæmorrhage, and to obtain time for reflecting on its cause and the mode of proceeding. My first idea was, that I had acted prematurely in taking away yesterday the ligature from the femoral artery; but from this scruple, I was relieved by ascertaining that pressure on the femoral artery did not stop the bleeding; consequently, there must be a collateral supply of blood. I then determined to explore the whole circumference of the tumor, and to surround it in every direction with ligatures; with that view, I cut through an isthmus of living matter, in front of the femoral vessels, consisting principally of fascia, and some adhering cellular substance. On doing which, it became clear that the tumor was aneurysmal, and that the disease had returned. I also perceived a very thin cul de sac, hemispherical, and half an inch in diameter, connected with the aneurysmal tumor and pulsating strongly. In the manipulations of the sac this tumor burst and bled freely. I then proceeded in tying in masses every thing connected with the sac, in consequence of my finding the structure so altered, and so many vascular connections of the sac, that the ordinary arterial arrangement was much modified, if not radically changed. I put ligatures above in the line of the femoral artery, another in the direction of the *os femoris*; another in that of the pubes, and another between the most posterior face of the tumor, and the trochanter minor. The latter being done according to the suggestion of Dr. Goddard, who during this time held the aneurysm in a state of compression which arrested the bleeding, and saved us from the distress of seeing our patient die on the spot.

These events were attended with a flow of blood from the original seat of the operation, and I then supposed that the artery had ruptured at the spot where its ligature had been, but when all the new ligatures had got their position, this bleeding ceased, so that the probability is, it came from a retrograde instead of a downward current of blood, and which was proved in the dissection after death. The obscurity of the vascular connections of the aneurysm, and of its internal arrangements compels me rather to conjecture than to state it as a point ascertained, but I am of opinion that the place punctured by me first was the enlarged femoral vein; and the protuberance which ruptured was the aneurysmal sac. The principal part of the bleeding and the most rapid gush of blood was certainly from the latter; the orifice of communication between the two vessels, was, therefore, still open as it had been."

By half past 1 p. m. the patient had lost about a gill, or more, of blood. Dr. Horner opened the stump and tied some small arteries. The patient was in a deadly state. On the 4th, he had pain in the right side of the throat in swallowing. On the 7th, drenching perspirations commenced. On the 8th, the ends of three nerves are now exposed for an inch or two and are in a state of inflammation; the sciatic; the obturator; and the anterior crural, all of which give excessive pain on the lightest touch. Now a bad ulcer began on the coccyx. Pain, too, was felt in right shoulder and in the hips. On the 9th, delirium; small puddle of blood, of dubious origin, under his buttocks. On the 10th, the

femoral veins seemed to be open. At night some hæmorrhage apparently from it. On the morning of the 12th he died.

The os femoris was in a state of necrosis up to the epyphysis formed by its head, and by the trochanter major. On being opened with a saw, a darkish serpentine line indicated the demarcation of the previously dead part; and the cells of the latter appeared to have undergone a limited suppuration. The bone being struck on its head, before it was sawed open, emitted a hollow sound. Some pus was found in the hip joint, the synovial membrane of which had a dark appearance. The anterior half of the cartilage of the os femoris was thinned by absorption apparently from the surface, which may have been done by the contiguous synovial membrane which covers the capsular ligament, as the cartilage from the fixed position of the limb had been, probably, since the original accident in contact with the synovial membrane; part of the cartilage in this region of the bone was entirely absorbed. The capsular ligament was sound.

The femoral artery just above the place of the original ligature was converted by its influence into a cul de sac; the bottom of which was firm, adherent, and about a line in thickness, and had a conical coagulum of bloody fibrine adhering firmly to it, about three lines long—with the apex upwards, and terminating at the orifice of a small artery, perhaps one of the external pudics. To this apex was appended a filament of the same fibrine, an inch or more long, running upwards in the canal of the artery.

Exactly where the ligature had been placed, the artery had been cut through by it, and the canal of the artery put on the appearance of a dilatation, and was continuous also with the original wound now reduced to the state of a small conical cavity. The artery was pervious from that to its inferior end. Trunk of artery thickened.

The femoral vein was open below; a probe passed unobstructedly from its inferior orifice upwards *sine limine* into the iliac. It was enclosed, as well as the iliac and the lower part of the ascending cava in an additional coat of tenacious fibrinous matter, which made them adhere firmly all along their course to the corresponding arteries and subjacent fascia iliaca. The external coat of the femoral and iliac vein was thickened and hard; and the internal coat exhibited the remains of strong inflammation, by its irregular slate-coloured surface, covered with a deposit of coagulating lymph. This appearance and deposit went up the ascending cava on its left side for two or three inches and there terminated in an angular manner. On the cava of this region were found some two or three plates, oval, half an inch in diameter, looking very much like the glands of Peyer in the intestines. Some lymphatic glands in a state of suppuration containing a small quantity of fetid slate-coloured pus existed in the course of the iliac vessels. No suppuration existed around the rectum and bladder.

From amongst several queries of Dr. Horner's, we quote the following.

1. "Did not the mortification ensue from its being easier, on the ligature being applied to the femoral artery, for the arterial blood to flow by the anastomoses of the obturator, gluteal or ischiatic arteries into the circumflex—thence into the sac, and return thence by the femoral vein, than flow to the foot and parts below the groin? The freedom of this anastomotic communication with the sac was proved, by the aneurysm continuing, though the main current of blood through the femoral artery was cut off, as proved by the necropsy. Would it not, therefore, be always proper to secure in every direction the arterial trunks, primary and collateral, communicating with a varicose aneurysm, so as to force the blood downwards to the limb below, and thus prevent the possibility of its returning to the vein without a complete circulation?

2. Did not much of the extent of this mortification, at least in the thigh, depend upon the deleterious gas generated by it below, forcing itself upwards by emphysema under the skin, and between the interstices of the muscles? In

these cases, therefore, is it not better to open freely the integuments and even the fascia to prevent such an incident, or to perform amputation?"

9. "Ought we not, before obliterating a main arterial trunk, to spend, if it be at our option, some time in dilating the collateral branches, by pressure on the trunk itself, interruptedly applied? This salutary practice appears to have fallen into unmerited disuse."

LUXATION OF THE HUMERUS DURING A FIT OF EPILEPSY. By W. A. F. BROWNE, M. D. Superintendent of the Crichton Institution for Lunatics. Dumfries.*

"G. R., aged thirty-one, a strong and robust man, and for many years subject to epilepsy, accompanied by mental derangement, upon one occasion, immediately after the cessation of a very violent fit, but before he appeared to know what he was doing, was observed to place his left hand upon his right shoulder, and heard to moan. He suffered so much from pain, and could so ill describe his sensations, that I was sent for. I found him crying piteously, grasping the shoulder, but otherwise unable to explain what was the matter with him. The testimony of all around (and several of the patients being convalescent, were credible witnesses) proved that he had not fallen—that he had received no blow—and that, in short there was no cause known for his present state. I caused him to be stripped, and, upon examination, found that the humerus was luxated downwards and inwards. The bone was easily reduced."

Sudden violent contractions of the pectoralis major and latissimus dorsi are said to have luxated the humerus, when it was separated from the side. An instance has also been recorded in which the lower jaw was luxated during a fit of epilepsy, and remained unreduced: and Dr. B. is informed that a case occurred many years ago in the Royal Infirmary of Edinburgh, in which, during an epileptic fit, *both humeri* were dislocated: the dislocations were reduced with great ease by Sir George Ballingall, who had charge of the patient.

SCIRRHUS OF THE STOMACH PROBABLY CONGENITAL.

By THOMAS WILLIAMSON, M. D. Edin.

The subject of this case, a male infant, died at the age of five weeks. At birth, it was plump, and apparently healthy, but a few days afterwards vomiting came on, and the matter ejected was coagulated milk. During the last fortnight the bowels were obstinately constipated, and the child seemed to be falling off considerably in flesh, till it gradually sunk exhausted. Upon dissection, the intestines were found collapsed and empty, and all the other visceral organs perfectly healthy, with the exception of the stomach, the pyloric extremity of which felt hard and indurated, forming a remarkable contrast to the soft and yielding parietes of that viscus when emptied of its contents. Upon removing the stomach, it was found that the pyloric orifice was so contracted, as scarcely to admit a small silver probe, a state which might perhaps in part account for its being nearly filled with coagulated milk. Upon slitting open the pyloric orifice, it was evident that the tissues entering into the composition of the parietes of the stomach, had greatly lost their normal appearance. The mucous coat was slightly thickened, whilst scarcely a distinct remnant of the middle or muscular tunic was observable. On the other hand, the sub-mucous cellular tissue

* Ed. Monthly Journ. of Med. Science, No. 1.

was so much hypertrophied and indurated, as seemingly to be the only tissue contained between the mucous and peritoneal coats: transverse white bands appeared to stretch from the sub-peritoneal to the sub-mucous cellular tissue, through that which formerly constituted the middle or muscular coat.

Both parents of the child were healthy, nor was there scirrhus in the family.

ON BLEEDING IN MANIA. By W. A. F. BROWNE, M. D. Superintendent of the Crichton Lunatic Asylum, Dumfries.*

Dr. Browne points out the, in many respects, injurious circumstance, *that the early acute stage of mania is generally treated by those who have no great practical acquaintance with the disease, and who likewise labour under the disadvantage of the patient being at home, without the material of a mad-house to assist them*—while those who *are* acquainted with the disorder receive the patient only when it is confirmed. In nine cases out of ten, when a professional man, even of eminence, is called to a case of recent mania, he orders general depletion, the liberal exhibition of the solution of tartar emetic, brisk cathartics, and cold applications to a shaven scalp. If the symptoms, and especially the violence and rapid pulse, continue, or return in unabated force, the patient is perhaps bled again from the arm, or, if not, he will be cupped or leeches to a certainty. And after these energetic measures are manfully urged for days or weeks, and the tartar emetic lustration fails in every respect, except in producing a nausea-quiet, an asylum is recommended as the last resource. By such a step, the patient is removed from the observation of the practitioner, who can neither prosecute the principles upon which he founded his treatment, nor accurately watch the consequences of what he has already done; and thus he may naturally conclude, and often does conclude, that the subsequent treatment is but a necessary continuation or completion of what he commenced, and that, in fact, he has scientifically and successfully paved the way for regulating the more advanced stages of the malady. This is a gross and grievous mistake. When a patient enters an asylum, the plan adopted agrees neither in principle nor application with that previously pursued.

Bleeding, then, is *the* one remedy, which (in Scotland) seems to be applied to every madman. *Vide* these samples.

1. A strong, sturdy sailor, rendered insane by grief, restless, vehement, but abounding in generosity and good humour, alternately the queen of British tars, and the queen mother of heaven, and a filter. Pulse 120, full, but soft, pervigilium; had been bled. 2. M. B. a slender, nervous female, incoherent, restless, sleepless, erotic. Pulse 90, strong; bowels constipated; tongue clean and moist; had been bled. 3. G. M. suffering from religious mania, combined with imbecility, bent upon the immolation of one of his sisters; reported to have had fits; had been bled. 4. D. C. seized first with stupor, then with acute mania, lastly with dementia. Pulse 80, soft, pupil of right eye contracted, insensible to light: had been bled. 5. A. B. a clergyman whose mind had given way under excessive exertion, he having preached seven times in succession; pale, thin, nervous; had been bled. We confess that we doubt the equal extent of this sanguinary practice in England, though it is pretty general too.

Depletion in derangement seems to have the following disadvantages:—1. It materially retards the recovery. 2. It gives a tendency to dementia. 3. It is sometimes directly fatal. 4. It debilitates at a period of depression, and in no

* Edinburgh Monthly Journal of Science, No. II.

degree facilitates the operation of other remedies. 5. It is dangerous during excessive muscular action.

1. Dr. Browne has found that cases in which general blood-letting has been employed, are more intractable, more obstinately resist the effects of other means and are constantly of longer duration than those in which another course has been pursued. He presents a table of twelve recent cases, as similar as can be expected. Such have been selected as are cured, or curable, and as have not suffered in any other way from depletion. Of the twelve, six were bled, and six were not bled. Of the six not bled, all have recovered; of the six bled, three have recovered, and three are still under treatment.

The duration of treatment is as follows:

Not Bled.			Bled.		
A.	2½	months.	B.	4	months.
D.	6½	—	M.	8	—
L.	4	—	R.	16	—
W.	6	—	H.	5½	—
W.	2	—	N.	14½	—
P.	3½	—	D.	20	—
	24½			68	

2. Dr. Browne believes that dementia more generally follows where depletion has been pursued. He is the more inclined to think so from these facts:—that even in such patients as have been bled, but are ultimately cured, a stage of imbecility approaching to fatuity separates the period of excitement from that of convalescence. Dementia follows directly and obviously great evacuations and copious blood-letting, where no symptom of alienation pre-existed. There is a case under his care where incurable dementia succeeded the loss of blood in pneumo-ri-a. Hæmorrhage is likewise a cause of the same disease. There is under his charge a lady who is subject to periodical discharges of blood from the bowels, who is weak and imbecile during the attack, but is comparatively sane when it ceases. Individuals who have attempted suicide, by cutting the throat, and suffered from loss of blood, often fall into dementia.

3. He mentions several instances in which bleeding seemed to occasion fatal exhaustion.

4. In a vast majority of the cases admitted into asylums, it is necessary to order a generous and nutritious diet. In every case where bleeding has been resorted to, a full regimen is indispensable. Unless it be given, the patient is in danger of sinking from that vague, but well-known "exhaustion," which figures so largely in the bills of mortality of the insane, and which evidently depends upon the withdrawal of that nervous influence from the organs of assimilation, which an unimpaired cerebro-spinal and ganglionic system exercise, and which is essential to healthy nutrition. Nor until the loss of strength which succeeds bleeding, and which is of course aggravated by mental anxiety, be met, can active remedies of any kind be tried. Opiates act, it is true, with greater power; but even if their efficacy were greater than it is believed to be, their influence is very limited, when compared with that of the agents which are inadmissible from the want of strength. In a London asylum, where both bleeding and emetics were used upon a grand scale, it was found that when vomiting was induced after bleeding, apoplexy frequently followed; and it is instructive to learn, that of 200 bleedings drawn at the same time five only were bled and cupped. The strong frequent pulse, which is supposed to indicate and justify this practice, is a most deceptive symptom. It is often not characteristic of the disease at all. When present, it is much more frequently the result of moral perturbation, than of a sthenic state of the brain, or any other organ. The

constant agitation, the tremendous muscular efforts, in which the phrenzied strength develops itself, likewise contribute to keep up the pulse. The accuracy of this observation is shown by the rapid fall which takes place when the patient is compelled to take rest and repose. To bleed in such a case, in the expectation of reducing the momentum of the circulation, is vain and pernicious. To bleed, in order to subdue the violence of the mania, is more so.

5. Among the dangers may be enumerated the loss of large quantities of blood after that prescribed has been withdrawn. This takes place from the difficulty of securing the vein, from the wound bursting forth during paroxysms of violence, and from the patient tearing off the bandages. We select two instances. 1. A medical man was largely bled during delirium, following a fall from his horse. During the night, he imagined that he was necessitated to walk out with two ladies, who appeared to stand at his bedside. In his attempt to dress, the vein began to bleed, and bled until he fainted. He passed from syncope to convulsion and died. 2. A carpenter was affected with violent suspicious mania. His friends had applied to a veterinary surgeon, who bled him profusely, and left him to the superintendence of his mother. Whenever reaction commenced he became doubly furious and unmanageable, tore the ribbon from his arm, escaped, was pursued, but continued to fly, although the blood flowed freely from his arm; and with such rapidity did he run, as to complete, three times in succession, the circuit of a carriage passing quickly upon the road. He was literally run down. He has now sunk into a state of imbecility and hebetude so profound, that all sensibility of the surface seems to be obliterated.

Dr. Browne has never seen a case in which local bleeding was not preferable to general.

ON THE EMPLOYMENT OF OPIUM FOR ARRESTING ACUTE INTERNAL INFLAMMATIONS. By ROBERT CHRISTISON, M.D., &c.*

I. The varieties of internal inflammation which best exemplify this action of opium, when given singly, are the inflammations of the mucous membranes. Of such diseases there are at least four which may often be thus successfully treated without almost any other remedy, namely—coryza, catarrh, influenza, and dysentery.

"As to *Coryza*,—most persons, on feeling its approach, are content to submit without a struggle to the infliction, and eschewing alike physic and the physician, let their 'cold in the head' take its own way. But few would do so, were they aware how easily and how agreeably so tormenting a visitor may for the most part be got rid of. For twenty years I have been accustomed to see it stopped at once by a full opiate given on the first day of its appearance. Let the patient avoid food after dinner, use liquids sparingly, take a full dose of muriate of morphia, or Battley's solution, at bedtime, and breakfast before getting up next morning,—and he will then commonly find the secretion of the nostrils permanently inspissated, and the complaint either gone entirely, or at any rate no longer a source of particular annoyance."

This is no new practice to us. We have occasionally employed it on others, as well as on ourselves, for many years. We have usually exhibited the compound tincture of camphor in a large dose, half an ounce, or more. But we have taken care to give a purgative next morning, and even with that safeguard, candour compels us to acknowledge that it has occasionally disagreed. It does very often stop coryza as by magic; but when it does not answer it may upset

* Edin. Monthly Journ. of Med. Science, No. II.

the stomach much. We cannot but consider Dr. Christison's picture as a little too gay.

Dr. C. has often seen a common *Catarrh without fever* cut short in like manner, if taken on the first, second, or perhaps even the third day. Or more generally it seems to pass at once over the intervening stages to that in which thick sputa are coughed or hawked up without labour, and without irritation in the chest or wind-pipe. *Febrile catarrh* too may be checked abruptly in the same way, if patient and physician are lucky enough to meet during the first or the second day at farthest. But here probably the next mode of employing opium is fully more successful.

In epidemic dysentery, Dr. C. believes that the cure may often be affected by opium alone, begun early and given boldly. In the epidemic of 1828, opium was given at once in the dose of one, two, or three grains every six, four, or three hours, according to the urgency of the symptoms, until signs of its narcotic action began to display themselves; and in this way sometimes twenty, or even thirty grains of opium were given in the first four and twenty hours. In several cases, where the treatment was begun not later than the close of the second day, the force of the disease was at once broken completely. And the only measures needed afterwards, were the continuance of the opium in diminished doses, and the restriction of the food to pulpy solids.

II. The method of using opium along with ipecacuan as a sedative, anodyne, and sudorific, in the early stage of acute inflammations, is probably applicable to a considerable number of diseases of the kind. Those in which Dr. C. has employed it are common sore-throat, catarrh, and acute rheumatism.

Cynanche Tonsillaris.—Dr. C. thinks that few cases may not be cut short if they are subjected to it about the close of the first, or, at all events, before that of the second day. Dr. C. relates two cases. We quote the second:—"A lady, about thirty-eight, long a martyr to cynanche tonsillaris,—which, in particular for three years before, had returned during the winter, ended in abscess of one or both tonsils, occasioned great and protracted torture, and had left chronic enlargement of these glands,—was attacked in the same way for the fourth time. When I first saw her on the fourth day of the disease, the tonsils, greatly enlarged, especially on the left side, blocked up nearly the whole throat. She spoke with much difficulty, could not swallow without long, painful, and repeated efforts, and breathed noisily and with labour. The pulse was 116, full and soft. The febrile oppression and anxiety were great. A large blister had been applied to the throat, and purgatives taken freely, but without the slightest benefit. The attack seemed too far advanced to be arrested. But as fluctuation could not be detected in the larger tonsil, Dover's powder was ordered, as in the former case. Sweating ensued; ere long warm drink could be swallowed with no great difficulty; and when the perspiration had been thus kept up for twenty-four hours, the pulse had fallen to 64, the swelling of both tonsils had materially subsided, and the febrile anxiety had ceased, together with the local uneasiness in a great measure. In two days more there was little complaint left except weakness. In the course of time, the chronic enlargement of the tonsils disappeared; and this lady, like the last, has never had another attack, though five years have elapsed since the one now described. The tendency to cynanche tonsillaris certainly seems to grow with its repetition in a severe form; and I have met with other instances besides those two, where an abrupt early cure seemed to break both the attack and the liability."

Acute Rheumatism.—"I am convinced," says Dr. C., "that, at least in young adults of sound constitution, a genuine acute attack may often be put an end to in a few days, by first drawing blood very freely to the approach of faintness,

and then giving Dover's powder instantly afterwards in the way mentioned above for inflammatory sore-throat. I have often observed, that after sweating has been thus brought out and kept steadily up for thirty-six or forty-eight hours, the pulse fell to the natural standard from nearly double that rate, the white thick-furred tongue began to clean, the pains and redness gave place to numbness and want of power, recovery went on afterwards swiftly and without interruption, and the patient was able to leave his bed in a week. The chief conditions for success are, that the bowels, previously opened if necessary, shall be let alone till the sweating is well over; that blood be drawn both largely and to approaching syncope; that the powders be given immediately afterwards, before the circulation recovers its state of excitement, which it will otherwise soon do; that the treatment shall be enforced before the close of the fourth day, but earlier if possible; and that the case shall be real acute rheumatism, not one of the subacute form, or gouty rheumatism, as it is called,—where for some days previously the local inflammation has been shifting from joint to joint, with irregularly intermitting fever. I have once or twice tried to do without the preliminary blood-letting, but have not succeeded."

III. The treatment of acute internal inflammations by opium, after blood-letting, consists in withdrawing blood very freely from the arm till faintness approaches, just as in the ordinary way of treating acute inflammations,—and then giving a large opiate, with a view to bring on sleep or the calm reverie which in some people takes the place of sleep. The result is, that, on the patient awaking, the general fever and local inflammation are found to be subdued and broken,—generally at once, but sometimes not till the repetition of the practice in twelve or twenty-four hours. Dr. Christison cites several cases. We shall only pick out one or two.

Case.—"A hewing-mason, aged 45, a broken-down man for his time of life, and subject for some years to obstinate cough in the winter, was seized with symptoms of acute *Pneumonia* in the left side. There was crepitation in the lower part of that side, rusty sputa, hard cough, hurried breathing, and a frequent hard pulse. On the second or third day, when I was first called to see him, I took away towards eight-and-twenty ounces of blood, which brought on sickness; and he then got 45 minims of laudanum. The usual effects ensued: he awoke free in a great measure of pain, cough, and difficult breathing; but his recovery afterwards went on slowly. Next winter he was tormented to an unusual extent with cough, expectoration, and shortness of breath. In the subsequent winter these symptoms recurred again severely; and ere long acute symptoms supervened, which resembled acute bronchitis rather than pneumonia, and which, after being checked for a few days by the same treatment as on the previous occasion, acquired fresh force and proved fatal. This was obviously a case of acute inflammation, superadded twice upon the chronic affection known by the name of 'mason's asthma.'" We cannot say that this case is a very encouraging one. The next, perhaps, may be deemed more so.

Case.—"A lady, about thirty years of age, and subject to dyspepsia, being loth to lose the gay season of the year, neglected for three weeks a short tickling cough, with dull aching and obscure tightness in the lower part of the left side. At length she was seized with chilliness followed by fever, acute pain in the side, hurried breathing, and more frequent, short, dry cough. I saw her within twenty-four hours, and found the pulse 110 and sharp, the respirations about thirty-six, the left side circumscribed in its movements, the lowest third of it quite dull on percussion, and without respiratory sound, the middle third somewhat dull on percussion, with unequivocal ægophony, and the most remarkable crackling or friction-sound attending inspiration and expiration, which I ever

heard. There was here much reason to dread chronic pleurisy, with a supervening acute form of the disease. In the evening a moderate blood-letting induced faintness; 35 minims of solution of muriate of morphia, given immediately afterwards, brought on quiet slumber; and next morning the fever and acute pain were gone, and the respiration was natural in frequency. The dulness on percussion in the lower part of the chest slowly decreased, and the crackling extended by degrees over the whole lower two-thirds of the side. This symptom continued for a week, during which every other complaint subsided; and she soon recovered completely."

Dr. Christison adds:—

"The conditions for successfully employing opium after blood-letting, are nearly the same with those for using Dover's powder in rheumatism. It is essential that the disease to be subdued be in its early stage; that a deep impression be made on it by blood being withdrawn both freely, and to the approach of faintness; and that the opium be given largely and immediately, so as to anticipate the renewal of re-action. Sweating sometimes ensues, but is not at all a necessary condition for success. The particular preparation of opium to be used is perhaps of no great consequence. I prefer the solution of muriate of morphia, or, failing that, the sedative solution of Battley. The dose of the former should not be less than forty minims for an adult male, and for others in proportion; and the dose of Battley's solution, which is certainly not so strong as its maker represents, should not be less than twenty-five or thirty minims. Some conceive this treatment applicable only to inflammation of membranous surfaces, not to that of parenchymatous textures. I do not know any positive facts either on one side or the other of this question; but the statement is doubtful, if it be meant to apply to acute parenchymatous inflammations in their early stage. If pneumonia be regarded as inflammation of a parenchymatous tissue,—which, although a common mode of viewing it, is rather incorrect,—then, there can be no doubt that in this particular instance the treatment is most effectual on many occasions."

We confess that we are of the number who think opium should be employed in acute inflammations cautiously. A valuable medicine, beyond doubt, it is, but one sadly liable to be abused. And we fear that were the plan of treating acute inflammations with it very generally adopted, we should soon have a very respectable *per contra* sheet to oppose to Dr. Christison's flattering list.

IMMOVABLE FRACTURE-APPARATUS FOR VARICOSE ULCERS OF THE LEG.

John Grant, aged 45, of spare habit, but of general good health, was admitted into the Leeds Infirmary, Sept. 8th, 1840, under the care of Mr. Teale, on account of ulcers of the leg.

After he had been purged freely and confined to bed for two days, lint was applied over the sores, and the entire leg from the toes to the knee was enveloped in the "immovable fracture apparatus," consisting of calico stiffened with mucilage and chalk. The material employed for this purpose is similar to that which was stated to be in use at St. Bartholomew's Hospital, and consists of a kind of pasteboard, formed by two layers of thick calico cemented together by an interposed stratum of mucilage and chalk. Two portions of this pasteboard, adapted to the form of the leg, and softened by immersion in tepid water, are applied to the leg, and retained by a spiral calico bandage, over which is spread a layer of mucilage and chalk, and afterwards a second spiral bandage.

After the apparatus had been applied eight days, a slight degree of putrid odour was perceptible, and there was some appearance of matter oozing through the bandage at the situation of the ulcers; the apparatus was therefore removed,

when the ulcers were found to be much diminished in size, the varicose veins no longer perceptible, and their thickened parietes could not be felt beneath the skin. The sores were dressed with lint, wax ointment, and a light bandage.

Oct. 9th. Ulcers healed. No return of varicosity.—*Provincial Med. and Surg. Journal*, Nov. 21, 1840.

THE UVULATOME.

A novel and most ingenious instrument, invented by Mr. John Milliken, of Dublin, for excising any portion of the uvula which it may be desirable to remove. It is a forceps having a sliding blade on the upper surface. The portion to be removed is taken hold of by the forceps, and secured by a small bolt projected by the thumb; the fore finger then projects the cutting blade, which cuts off the desired portion in a moment, which being held by the forceps is brought out of the mouth. This instrument renders the operation an affair of a few seconds—it is simple, ingenious, and effective. The inventor of the uvulatore has, we understand, several other new instruments in progress, which we shall have pleasure in introducing to the notice of the medical public on this side of the Channel.—*Medical Times*, July 4, 1840.

DEATH FROM BRANDY AND SALT.

We are much disposed to agree with those who think it useless to legislate against quackery. When credulity can be put an end to by Act of Parliament, then, and not before, quackery can be stopped. But so long as there are rogues to promise impossibilities and fools to believe them, the charlatan's trade will subsist.

All our readers know that the dish of humbug that tickles the public taste just now is—brandy and salt. We dare say it will have its victims. Indeed here is one.

A man, advanced in years, had been the subject for many months of a tumor under the chin, for which he had received the best advice that could be procured in the neighbourhood, and was given to understand it was of a cancerous nature. He afterwards met with a pamphlet on Brandy and Salt, and soon began to try the remedy, taking it internally and *rubbing it on his head*. On the 5th of December he was attacked with hæmoptysis during a fit of coughing; and having lost a good deal of blood, he became alarmed and sent to me for assistance. When I arrived the bleeding had ceased, save an occasional streak of blood in the sputa, and his fright had in consequence passed away. I spoke to him seriously about his complaint, and was about to treat his case, when he told me he had been taking brandy and salt with great benefit to the tumor, and that he could not consent to leave it off; nor would he allow the application of any other remedial means, although I pointed out as strongly as I was able the danger he incurred by persisting in such a course. I was obliged to leave the house without doing any thing for him, but cautioned his wife (who also urged the continuance of the brandy and salt, thinking the loss of blood was some salutary discharge from the tumor, occasioned by the remedy) to watch him very closely, and not allow him to make use of any exertion. Soon after this, the patient paid his men's wages, went to bed, had a fit of coughing accompanied with another discharge of blood, and in a few minutes was a corpse.—*Prov. Med. and Surg. Journ.* Jan. 2, 1841.

POLYPUS OF THE UTERUS REMOVED BY THE HAND. By J. TOOGOOD, Esq.

In June, 1830, I visited with a gentleman of this place, a woman between 50 and 60 years of age, who had been suffering for a long time from violent hæmorrhage from the uterus, and on making a careful examination, a polypus of very extraordinary size was discovered. It was proposed to pass a ligature around it, but the patient wished to defer the operation for a short time, and when the attempt was made it was found impracticable, in consequence of the polypus being so soft and yielding, as to render it impossible to carry the ligature over its stem. As the patient's safety depended on the immediate removal of the tumor, I insinuated my hand into the posterior part of the vagina, in the hope of being able to place a ligature around it, until I found the stalk between my fingers; I then twisted it off, and withdrew the largest polypus that I ever saw; no hæmorrhage or bad symptom followed, and in a few days the patient was quite well.—*Prov. Med. and Surg. Jan. 23, 1841.*

AMAUROSIS AND NIGHT-BLINDNESS PRODUCED BY ONANISM AND INORDINATE VENERY. By ROBERT CRANE, M.R.C.S., Kilkenny.*

CASE 1. *Amaurosis from Venery*.—October 5th, 1839. J. D., aged 34, under the middle size, slight, but muscularly made, countenance flushed and drowsy-looking; complains of sense of fulness in the head and dimness of sight; to such an extent that he occasionally walks with his hands stretched before him to avoid being knocked, and some weeks ago he walked into the River Suir off the quay of Waterford. The pupils are broadly dilated, the left most so; iris sluggish under light; conjunctiva and sclerotica are deeply injected; is slightly dyspeptic; bowels confined; pulse 90, and nothing unusual in its character; was in Stevens's Hospital in the early part of the summer, where he was put under mercury; had blistering ointment to his head, and a seton in his neck; thinks his sight was improved by the salivation, but it was as bad as ever in a few days after; but the mercury cured severe neuralgic pains in his arms and legs, which he then laboured under. The seton in his neck fell out, and he is now worse than when in Dublin.

This man's complaint is clearly traceable to his having married three years since, and as he states it, "having used sinful means to force, and enable him to gratify desires oftener than nature wanted." The practices were omitted, and the following treatment adopted:—

Cucurbitulæ C. nuchæ, appl. et mittatur sanguis ad xxx.

R. Pil. Coloc. c. gr. x. Ft. pil. ii. h. s. s.

The next day he felt much better; he continued under treatment until the latter end of November, in which time he was again cupped twice, had the seton replaced, and got aperients occasionally. He is now in the perfect possession of his sight.

There is another case, which we omit.

CASE 2. *Night-blindness from Onanism*.—May 4th, 1840. J. Q.——, aged 26, complains that he gets quite blind every evening as it grows dusk, and remains so until morning breaks; that he has been in ill health these twelve months past, but was not blind at night until about two months since; pupils natural size; iris slow under light; eyes and skin have a dull icteric tinge;

pulse 120, and feeble; feels weak, and has lost his appetite; tongue covered with a light brown coat, moist and flabby; bad pain in the right side about three months back; right hypochondrium still swollen, and tender under pressure; abdomen tumid, but does not appear to contain fluid; the alvine discharges are scanty, but contain some bile; urine high-coloured and small in quantity. Has practised onanism for the last seven years, and to a frightful extent; has nocturnal emissions every night. Was directed to rub tart. ant. ointment over the right side, and to take night and morning the one-sixth of a grain of sulph. ferri, and 4 grs. of Rufus's pill, and to have porter and free animal diet. Under this treatment his general symptoms have improved; the enlargement in the right side is much lessened; the discolouration of the skin is disappearing, and he feels stronger, but the night-blindness still continues. Mr. Cane has commenced quinine with him, and he has given up his mal-practices.

CASE 3. Night-blindness from Onanism.—May 20th, 1840. J— K—, aged 18, complains he is blind at night; can barely see stars round a candle; feels weakly; but has no pain or sickness of any kind; is thin and emaciated; pupils a little dilated, and iris slothful; countenance pale; tongue moist, and, as in all those cases, morbidly soft and flabby; pulse 100, and feeble; bowels and kidneys acting healthily; admits that he has been practising onanism since he was fifteen years old; has often practised it four times daily—latterly not so often; nocturnal emissions; has felt the blindness creeping on him for the last year; sees perfectly well during the day. The treatment has been an aperient, quinine pills, and nourishing diet. He is rapidly improving; he can now see objects at night, but cannot yet see to read or work.

Mr. Cane presents us with the physiognomy of an onanist, or indulger in gross sensuality. There is, he says, a peculiar expression about the eye, partly caused by a corrugating of the lids at the outer canthus; a peculiar expression of the eye itself, a slow and stealthy mode of moving it over, and up and down an object, a language in the glance itself; while the lips are compressed and protruded, a "tout ensemble" not easy to analyze, but which the observer of human character soon becomes familiar with, and which, if his station or his profession be one permitting him to master men's secrets, will lead him to recognize a distinct order of the human family, many of whose diseases may be thus traced within a narrow compass, and to a positive source.

He believes that both diabetes and amaurosis are often traceable to indulgences of this description.

"The first case of diabetes mellitus I ever witnessed occurred about the year 1826; that patient acknowledged to me that he dreaded onanism had caused his disease. Since then I have seen ten cases of diabetes; of that number six acknowledged onanism to its most destructive extent, one admitted it to the extent of using partially as a means to arouse passion for sexual intercourse, and the remaining three denied every thing of the kind, whether with truth I know not. But the admission of the other eight made a deep impression on my mind, and I cannot now meet with an amaurotic, or a diabetic patient, in whose case, if, after due investigation, some other cause is not discoverable, without my mind reverting to this, in my practice at least, most frequent source of disease."

We think Mr. Cane has done well to direct attention prominently to the consequences of these vices.

ON THE TREATMENT OF VARIOUS DISEASES. By ROBERT J. GRAVES, M. D.*

1. *Looseness of the Teeth.*

Among the various causes which produce looseness of one or several teeth, none is more common than inflammation of the alveolar processes and sockets. Sometimes this originates in disease of the tooth itself, or of the gums; but in other instances, the diseased process commences in the alveolar periosteum, and by spreading to the socket and gums, it gives rise to great pain, swelling, and sponginess of the latter, while it eventually detaches the fangs of the teeth implicated in the attack, from the grasp of the sockets, and thus at last the teeth fall out, though in themselves they exhibit no appearance of decay.

The progress of the disease, is accompanied by extreme pain, and as a puriform discharge oozes out from between the gums and the inflamed periosteum, many limit their attempts to local means, and often succeed in effecting a cure by frequent application of leeches to the inflamed gum, and in very obstinate cases, by incisions freely made through the gums and inflamed periosteum. Last year a patient of Dr. Graves' was thus affected, and thus treated, and although under the care of a most skilful surgeon, and of an eminent dentist, he lost successively a left bicuspid and molar of the upper jaw. His sufferings were for a short time relieved by the extraction of each tooth, but in a few days became as agonizing as ever, when finding all the neighbouring teeth loose, and being told that they also must soon be drawn, he had recourse, in despair, to a celebrated homœopathic doctor, whose infinitesimal doses completely failed. Dr. Graves recollected that he had successfully treated him for a periostitic affection of the sternum and ribs, and that hydriodate of potash was the medicine which served him most. He recommended him to use ten grains of it three times a day, and had the satisfaction of perceiving a daily improvement, so that pain and inflammation soon ceased, and in about ten days the teeth were all fastened.

The periostitis to which this gentleman was liable, was of a rheumatic nature, otherwise his constitution was sound, and he was only thirty-four years old.

2. *Tinea Capitis.*

Dr. Graves makes some remarks on the dry scaly form. This species of ring-worm or dry tetter, is very contagious, and sometimes makes its appearance in one or several spots on the scalp, face, or other parts of the skin, but seldom is observed on the lower extremities or abdomen. It scarcely ever remains for any great length of time fixed in any part, except the hairy scalp, where it is apt to locate itself and become permanent. Dr. G. recommends attention to the following points.

"1st. When the disease is of long standing, always insert an issue in the arm before you attempt its cure. I have seen water on the brain, and other fatal consequences, from the neglect of this precaution.

2ndly. If this disease has clearly originated from contagion, and no other evidence of derangement of the general health can be detected, we must not, from the mere presence of the cutaneous affection, infer a constitutional taint, and must avoid the common error, of making the poor children undergo a course of alterative medicines.

3dly. This affection originating in contagious matter directly applied to the skin, cannot, like some varieties of lepra and psoriasis, (to which it often bears a great resemblance,) be cured by internal medicines, such as mercury, arsenic, and iodine, given separately or in combination, as in Mr. Donovan's new preparation.

4thly. When it occupies the hairy scalp, the common procedure of shaving the head is injudicious, for it adds to the irritation of the skin; and the scalp can be sufficiently exposed by cutting the hair as close as possible with a sharp scissors.

5thly. The great object is to get rid of the morbid action which is going on, and which consists in an inflammation of the external surface of the corium; an inflammation occurring in spots, and giving rise in the first place to an increased secretion of epidermis, which produces the scaly appearance of the parts affected; and in the second place, to a very slight and scarcely perceptible oozing of moisture which immediately dries into scales, and thus escapes notice, being mingled with the scurf formed by the detached portions of morbid epidermis.

6thly. The cure must be accomplished by removing these scales, as far as that can be done by diligent ablation, without using any irritating degree of friction; and when the diseased portion of the skin has been thus exposed, we must next have recourse to some application which will destroy the morbid secreting surface. Formerly this was attempted by means of an endless variety of complicated formulæ, each of which had its advocates; the list may, however, be now reduced to a few simple remedies, and in truth, with nitrate of silver, sulphate of copper, or strong tincture of iodine, every case of this disease may be cured.

7thly. I never use the solid lunar caustic, or sulphate, but prefer a solution of ten, fifteen, or twenty grains to the ounce as the case may require. As to the application of this solution, it will not do to apply it, as is generally done, with a camel's hair pencil, *for it must be strongly rubbed into each spot*, for which purpose a small bit of sponge, covered with fine linen, and tied to the end of a quill or slender stick, should be employed. When a large portion of the scalp is affected, it will require some perseverance to apply this lotion in an effectual manner.

8thly. An application of this nature, when effectually done, must not be repeated oftener than once a week.

9thly. Immediately after it the whole scalp must be covered with a spermaceti dressing, and the spermaceti must be renewed at least four times daily, so as to keep the head constantly moistened with it. The head is not to be washed for three days after the application of the caustic, or of the tincture of iodine, but then it may be well but very gently washed with yellow soap and water twice a day, taking care to cover, as before, with a spermaceti dressing after each washing.

In scaly diseases of the skin, it is quite surprising how much the cure is facilitated by keeping the affected parts constantly smeared with spermaceti, oil, melted suet, or even candle grease. Without this aid, the use of caustics will often disappoint the practitioner.

10thly. When the above precautions have been taken, the cure will advance rapidly, and each succeeding application of the caustic solution, or of the tincture, may be less severe."

3. *Hydriodate of Potash in Sciatica and Lumbago.*

"I first became acquainted with the remarkable efficacy of this medicine in lumbago and sciatica, under the following circumstances. In the memorably wet month of July, 1839, I was called out of bed at midnight, to visit a lady in the country, and the vehicle sent to convey me was a hack covered car. The cushions were very damp, and I had not proceeded half a mile, before I was attacked with lumbago, so severe, that I could scarcely walk when I arrived at my patient's residence. Next morning I was better, having perspired much during the night; but still the pain was troublesome, and as the season continued unusually cold and wet, (indeed it scarcely ever stopped raining from the 8th of July, 1839, to the 19th of February, 1840,) and as my duties exposed me much to the weather, and prevented me from giving myself the necessary rest, my lumbago continued to increase again, and in about a month, the gluteal and sciatic nerves of the left side became engaged; I noted particularly, that the

pain spread very gradually downwards from the lumbar region, so that it took a week or ten days to arrive at the ham, and a still longer time at the ankle; I was then quite lame of the left leg, suffered much from pain in bed, and had become so helpless, that I had to get my servant to draw on my stockings; during all this time my general health was perfect; appetite good; digestion regular; and no deviation of the urine from the natural appearance. I mention this, because several of my medical friends advised me to take antibilious aperients, an advice founded on Abernethy's doctrine, that many local affections proceed from stomach derangement. I was at last forced to try something for my relief, and had myself cupped, and tried the warm douche and Dov. r's powder, but without any good effects. I began now to fear, that I should be forced to give up all professional business, and confine myself to the house for many weeks in order to go through a mercurial course, combined with proper topical applications, when happening to meet Mr. Ferguson of Kildare-street, he recommended me to try hydriodate of potash, of which he was good enough to send me a drachm dissolved in a pint of decoction of sarsaparilla. I took quarter of this daily, and may literally apply here the common phrase, that I felt each dose do me good; in truth the benefit I derived was perceptible hourly, and was so rapid, that in four days all traces of the lumbago were gone, and my lameness had quite ceased. I did not take more than one bottle, i. e. one drachm of the hydriodate, but the good effect continued after I had ceased taking it, and in less than a week, I was perfectly well. Subsequent experience enables me to recommend this medicine strongly, in subacute and chronic lumbago and sciatica.

It is right to observe, that the remedy had in my own person to work against various disadvantages, for I neither relaxed from my labours, nor refrained from eating and drinking as usual. This is only another example of the many I have met, which prove how injudicious it often is, to seek the cure of local inflammations by means of lowering the whole system."

INOCULATION AFTER VACCINATION.

Dr. Blennerhassett, of Tralee, has communicated to the Dublin Journal a paper on Small-pox after Vaccination, from which we are tempted to extract some rather curious particulars.

About the autumn of 1835, the small-pox was introduced into Dingle and the neighbouring villages, by one or two itinerant quacks, who inoculated the children of the poor at a shilling a head. Dr. Blennerhassett's children had had the cow-pox perfectly. But in November two of his sons were attacked with small-pox, and one had it in a confluent and severe form. He now determined to inoculate the remaining nine, with matter taken from the first, who had the small-pox mildly.

"In eight of these the progress of the small-pox inoculation was as follows:—On the second or third day, a small vesicle appeared with the edges red, and somewhat inflamed from the first, presenting pretty nearly the appearance of the spurious cowpock; it was not so circular as the vaccine pustule, and had not the flat top, which I reckon the chief distinctive mark of the latter. The pustule increased in size, and the angry, festered appearance of the edges became more apparent, till the eleventh or twelfth day, when the erysipelatous inflammation, though not quite so vivid and well defined as in cowpock, encircled the pustules. This inflammation, in some of them, went quite round the arm, occupying about half of it; and in one boy of eleven, it fairly surrounded the entire arm from the top of the shoulder to the elbow, in the shape of a slight *erythema*, so that I thought it right to apply a saturnine lotion, which soon subdued it. This inflam-

mation disappeared in all of them in two or three days, leaving a larger sore than in cowpock, which soon became incrustated with a black scab, which continued several days; and in one or two, when it was rubbed off prematurely, exhibited a deep red pit, and on healing, left a deeper eschar than in cowpock. About the fourth or fifth day a slight swelling in the glands of the axilla of the affected arm was perceptible, with considerable pain on pressure, or on moving the arm.

On the sixth or seventh day all the eight suffered a smart febrile attack with some rigors, increased heat, accelerated pulse, pain in the head, limbs, and back, and sickness of the stomach, with prostration of strength, and great depression of spirits; this continued two or three days; but in a lad of seventeen and the boy of eleven, the fever continued for five days so extremely severe, as to confine them to their beds, and I began to repent that I had not let them take their chance, apprehending that this fever would be succeeded by a crowded eruption; however, I had the pleasure to find, that the febrile symptoms gave way without the eruption of a single pustule, excepting a number of minute vesicles which surrounded the inoculated part of the arm. The child in whom the inoculation failed was an infant whom I vaccinated three months before; I repeated the inoculation, however, in the summer of 1836, and he then took it in the form I have now detailed."

He was now pressed to inoculate ten members of a family, which he did with matter taken from his son who had had confluent small-pox. He found the result almost exactly similar; the symptoms of pain in the axilla, and the occurrence of fever on the sixth, seventh, or eighth day, proving that the constitution was fully affected; one only of this family resisted the inoculation, a girl of about fifteen.

"Besides the nineteen now recounted, I inoculated fifty-one more in the course of a few weeks, the majority of them being children of the gentry of the town and neighbourhood, of various ages, from that of five or six to puberty; the fever and other symptoms (except the pain in the axilla, which was sometimes wanting) were the same as already detailed; in the case of one young lady, the fever appeared so early as the fifth day; but on whatever day it appeared, it was generally sufficiently active to confine the patients to the bed, for two days at least, when it gradually subsided, as in my own family, without any decided pustular eruption, except in two instances, in each of which, a gentleman and lady of about twenty, somewhat more than 200 perfect small-pox pustules occurred in the face and body. When variolous inoculation was practised previous to the introduction of cowpock, the progress of the punctured vesicle, as well as the pain in the axilla and febrile symptoms, were very nearly similar to those I have now described; and in a great majority of cases, particularly in those who had undergone a preliminary preparation for inoculation, there occurred no pustular eruption, except the minute pustules which surrounded the areola of the punctured part. The small-pox, therefore, in sixty-eight out of seventy of my cases, was, I almost venture to say, as fully communicated, as if the patients had never been vaccinated."

INTRODUCTION OF SYPHILIS INTO THE SYSTEM, THROUGH OTHER CHANNELS THAN SEXUAL INTERCOURSE. By CLEMENT HAMERTON, Surgeon to the Castletown Dispensary.*

Mr. Hamerton relates some cases, from which he draws the following conclusions:—

* Dub. Journ. March, 1841.

A healthy child is applied to the breast of a venereal nurse, in a couple of weeks syphilis shews itself in the child. A venereal child is applied to the breast of a healthy woman, soon afterwards she gets a syphilitic sore of the breast, which contaminates her system. A servant girl sucks a venereal sore breast, she gets a venereal ulcer of the mouth, which taints her system. The midwife has a slight scratch on the palm of the hand, and in delivering a putrid venereal child, she gets a sore on the hand which infects her system; and lastly, the husband of the midwife is diseased at the time the ulcer exists upon his wife's hand. The husbands of Duffy and Fay had not a single syphilitic symptom, nor did they take any mercury. The only inference I think warranted from the above cases (differing from the received opinions) is, that when death or disease of the children has been caused by a syphilitic taint in the mother, not received from the male parent, it is not necessary to subject the latter to a mercurial course.

CRACKED TONGUE.*

A country lad, aged 18, consulted Dr. Godson, on account of a deep groove, or crack, extending from the root to the apex; the edges of which groove or crack were somewhat elevated, rough, and irregular. The lad declared that he had suffered greatly from this affection during the last six or eight months; and that he had consulted several medical men, but had derived no benefit from their advice.

"Of course, I looked to the stomach (the unfortunate organ to whose impertinence so many local diseases are speciously assigned) as the proximate cause of the lad's 'bad tongue.' Accordingly, I set about putting the digestive organs into 'good order,' and applied various caustics to the part affected, &c.; but at the end of two months the groove or crack in the tongue remained *in statu quo*."

At the end of two months, the lad was no better. Dr. G. quotes the case of Charles Mathews, related in his "Memoirs." "In a few weeks (says Mrs M.) after these harassing struggles, my husband found an occasional inconvenience, that he had lately felt, augmented to a most serious disorder, his eventual sufferings from which were truly pitiable. I can only describe it by saying, that it showed itself in *deep cracks across his tongue*. Every advice was sought and attended to; but it baffled the first-rate skill and experience. It sometimes prevented him from eating, and banished sleep; and had he not been resolute in the prosecution of his duty, he must have declared it (as his medical men did) impossible to use it professionally. Every word he uttered was like a drop of aquafortis upon these cracks. This complaint had in turn been pronounced to be *stomach and local fever*, caused by anxiety and his great professional exertions. On the days of performance he often found it requisite to preserve a total silence until he began his 'entertainment,' when he described his sensations to be like what he must be supposed to feel while talking and singing with a piece of red hot iron attached to his tongue."

This is not a very uncommon affection. It is a very troublesome one. As a general rule, solutions of caustic as applications, and sarsaparilla with the iodide of potassium or the nitric acid, as internal remedies, combined with regulation of the secretions, and the avoidance of mercury in anything like full doses have, in our hands, answered best.

DR. GREGORY *versus* "VARIOLÆ VACCINÆ."

We are come or coming to a happy state with reference to the protective power of vaccination. Our readers recollect that it has been just settled that cow-pox *is* small-pox. Dr. Gregory is quite positive that it is *not*. We quote from that capital little work—Braithwaite's Retrospect—a work very much wanted in these days of Journalism.

Dr. Gregory writes to Mr. Stuart:—

Will revaccination protect, and for how long? The true answer I believe to be as follows:—The value of revaccination is in one sense proportioned to the effect produced. If revaccination produces a full eight-day pock with areola, it stands *loco primæ vaccinæ*, and the individual may be said to open a new policy of vaccine insurance, dated from that period. On the other hand, if the revaccination produces little or no effect (a mere irritated papula), nothing is taken by the motion. The individual remains in *statu quo ante* revaccination. But then comes the question; will a modified effect serve to fill up the measure of vaccine protection decayed during the preceding ten, fifteen, or twenty years? This is the pinching part of the question. My persuasion is, that you cannot thus multiply degrees of vaccine protection. Two imperfect vaccinations do not, in medical arithmetic equal one perfect one; no,—nor three, nor four, nor twenty. Modified or imperfect revaccinations, therefore, in my estimation, = 0; they are worth nothing. They irritate the arm, and that is all. The constitution is uninfluenced by them. I may be wrong in this, and I am ready to correct the error, if it can be shown to be error; but all my experience goes to this. The doctrine of proto and deuto-vaccinations will soon merge in that of trito, and ultimately (as time creeps on) in poly-vaccination. Will a man be perfectly safe (that is to say) who is vaccinated (or subject to vaccination) every year? Those who support the present fashionable theory and practice of revaccination will please answer this question.

I have now brought you to a point which I have been anxious to gain. I have never yet addressed any one, in writing, on this subject, and I now write to you on it, because I see that you have considered it well; that you have thrown off the trammels of Jennerian pathology, and are content to think for yourself. Observe, I say, Jennerian pathology, not Jennerian practice. I feel assured you do not view vaccination as a kind of small-pox. The term *variola vaccinæ* was incorrect in pathology. Cow-pock is a something that alters the human blood, and indisposes it to take small-pox. But it is not small-pox. A coating of gold secures our salt spoons from the action of chlorine; but gold is not chlorine. Small-pox after vaccination is not on a par with with double small-pox. Small-pox after vaccination is a first attack of small-pox, and may be followed by a second some twenty or thirty years hence. Well, then what is to be done to fortify the public mind in the matter of vaccine security? How long are we to go on thus showing annually or epidemically our practical distrust of vaccination? The sooner we come to a decision on the subject the better. There is one, and only one way in which this can be done. Not by revaccination, but by inoculation at distant periods from the date of vaccination.

Now as to the real pathology of vaccination. Jenner's theory must be given up, viz. that cow-pox is only small-pox in its mildest and most original form; that a man has cow-pox now instead of the small-pox which he had formerly: that small-pox occurring after cow-pox is analogous to small-pox after small-pox. These three positions, the foundations of Jenner's notions, are, I believe, entirely groundless and imaginary. The true pathology of vaccination is altogether different.

Now, vaccination has the extraordinary power of giving to the human body the singular property of resistance to the variolous effluvium. Vaccination is not small-pox, but just the reverse,—the antagonist principle.

What wonder, therefore, can it be, if time should demonstrate, that the power of resistance thus conferred, is confined within certain limits ; as thus :

1. The power of resistance is complete (both as to casual and inoculative admission) for the first ten years of life.

2. The power of resistance ceases in certain constitutions before it ceases in others

3. The power of resistance given by cow-pock ceases *quoad* inoculation before it ceases *quoad* the casual (or infective) mode of access.

5. The power of resistance is diminished, by any great changes taking place in the human frame, whether brought about by puberty, or change of climate, or by a long fever ; or lastly, by gradual and insensible changes taking place in the system.

There may be many more laws affecting the general principle of resistance given by vaccination hitherto unsuspected. I believe there are. I see daily facts inexplicable on any known principle. For I wholly throw out of consideration Jenner's fanciful notions of vaccination impeded by pre-occupation of the skin ; of vaccination rendered imperfect by the virus being taken at too late a period ; or the more modern notion, that too few vesicles are raised ; or those few not developing a sufficient amount of constitutional fever. All this is mere unauthorized theory. Two or three good vesicles on the arm constitute vaccination. When small-pox subsequently occurs, do not then reason *ex post facto*, and say the vaccination was faulty, but find out what are the laws which limit the principle of vaccine resistance.

Jenner set us all so wrong by his term *variola vaccinae*, that it is really difficult to get out of the false (because so well beaten) track. If he had wanted a short expressive term, it should have been *vaccinia antivariolosa*. We should then have set ourselves to study how far the antivariolous power extended, and by what laws it is limited.—*Braithwaite's Retrospect*.

EXPLANATION OF THE SYMPTOMS OF EMPHYSEMA OF THE LUNGS, BY THE NATURE OF THE ANATOMICAL LESION.*

We extract the following from a paper on Emphysema of the Lungs, by Dr. Goolden. The paper gives an account of the views of Dr. Lombard, of Geneva.

The symptoms may be divided into two groups.

The one is the immediate consequence of the retention of air within the lung. The other is produced by the obstruction of the circulation, and inaptness of the diseased portion to perform the function of respiration.

To the first group belong—

1. The sonorousness of the chest ; since a considerable quantity of air remains confined within the lung.

2. Distortion of the chest. It is a common observation, that the walls of cavities mould themselves to their contents ; and if the lung continues permanently in a state of distension, the chest will be developed in the same proportion.

3. Absence of the respiratory murmur, the natural consequence of the fullness of the lung, which, being already distended to the utmost, can receive no more at each inspiration.

4. Atrophy of the inspiratory muscles, which Dr. Stokes has remarked as the consequence of the forced extension in which they are maintained by the morbid distension of the lung, and which may in a measure account for the weakness of the inspiratory sound.

* Med. Gazette, Jan. 29, 1841.

To the second group belong—

1. Palpitations.
2. Hypertrophy and dilatation of the right ventricle.
3. Dropsy, resulting from the obstruction to the pulmonary circulation through the morbid lung.
4. Dyspnoea, where there is a greater supply of venous blood than the diseased lungs can arterialize. This explains the various causes producing a paroxysm of asthma; such as exercise, mental emotion, stimulants, which increase the circulation, a full stomach, the recumbent posture, preventing the descent of the diaphragm, obstructions of the air-cells or lobes, which prevent the lungs from using their full power in performing the respiratory function.
5. The frequency of pulmonary catarrhs, the result of the increased activity of the healthy parts of the lung, in those patients in whom a whole lobe, and frequently a whole lung, is perfectly useless for the purpose of respiration.

A MODE OF INTRODUCING THE CATHETER IN DIFFICULT CASES.*

Dr. Patterson has adopted a plan of introducing the catheter in cases of difficulty, which he thinks may be useful. We confess that we believe practice and dexterity are *the* things needful. But to Dr. Patterson's method. It consists in attaching a bladder of water to the catheter, and, when there is an obstruction, directing a stream through the instrument upon it.

He attaches a small bladder to the end of the catheter, after the manner of a mounted enema pipe, the bladder need not be large, one that holds about half a pint of water will be sufficiently so; and the catheter must be furnished with a small cork, having a piece of twine fixed to it, just like the cork of an enema pipe. The largest size catheter the urethra will admit of should be used, that the impetus of as large a jet of water as possible may act on the obstructed part of the canal, and also that the urethra being filled by the instrument, the fluid may be easily prevented from returning by the side of the catheter. The eye must be large, and very near the end of the tube; or, what is better, the tube should have a large orifice within the circumference of its anterior extremity, with the edge rounded in so as that it shall not hurt, or catch the lining membrane of the passage. Also it must be a silver or permanently curved elastic catheter: for the injecting apparatus would prevent the withdrawal of the stilet necessary to maintain the curvature of a common elastic one.

The instrument, having the attached bladder properly adjusted, is to be passed down to the obstruction: if it cannot now, on further trial, be made to enter the patient's bladder, it must be held by an assistant, while the small cork is being inserted into its outer end: about six ounces of lukewarm water are to be poured into the injecting apparatus; the latter must then be closed, and tied as near as possible to the fluid, so as to exclude every portion of air. The operator is next to encircle the penis with the finger and thumb of his left hand, making gentle circular pressure to close the urethra round the catheter; he will then, having first withdrawn the cork, embrace the bladder of water with his right hand, so as to be able to apply strong and uniform pressure on as much of its surface as possible, in doing which, its contents being continuously and forcibly propelled into the urethra, and the handle of the instrument being at the same time depressed, the latter at once passes with facility into the patient's bladder.

The left hand in holding the penis, should be quite passive, allowing the ut-

* Dublin Journal, March 1841.

most freedom of motion to the catheter; the right hand should not touch any part of that instrument, but manœuvre it through the medium of the attached bladder of water, in the act of compressing the latter, so that its extremity may be free to follow, as it were spontaneously, the course the current of water opens before it.

MISCELLANIES.

MEDICAL REFORM.

At the time we are writing (the latter end of March) it is difficult to say what aspect this wears. Mr. Warburton's Bill has shuffled off its mortal coil, one scarcely knows how or where, although it is obvious *why*. And the imprecations that have been heaped upon it must be highly satisfactory to the honourable member for Bridgewater, and put him much in love with the cause of Medical Reform.

Mr. Hawes's Bill has been treated scurvily too. The "ridiculous man" has crept out of it to the delight of some and the dismay of many. Whether the honourable member for Lambeth may be encouraged to go on, we cannot venture to determine.

In the mean time, there are two significant indications of what turn matters are like to take. *First*, there are such differences of opinion among reformers, that unanimity in recommending or in prosecuting any scheme, seems far off and unapproachable; and *secondly*, the Colleges have admitted more or less the necessity for modifications in their constitution. The conclusions which may be naturally drawn from these premises appear to us,—the improbability of any strong interference on the part of the legislature—and the probability of spontaneous changes, more or less satisfactory and considerable, on the part of the corporations. As this will, in all likelihood, be the denouement of the piece, we are the more inclined to gather and to dwell upon the reform manifestoes of those bodies.

And first of the COLLEGE OF PHYSICIANS OF EDINBURGH. They have published the following REPORT.

At a meeting of the Royal College of Physicians of Edinburgh, called to consider the Report of a Committee of their body, on the Bills for Medical Reform, which have been introduced into the House of Commons by Mr. Warburton and Mr. Hawes, the following Resolutions were unanimously adopted:—

1st. That the College derive much pleasure from finding that the subject of Medical Reform, which has so often been under their consideration, and in which they have repeatedly endeavoured to interest the legislature, has at last been brought, in a tangible form, under the notice of the House of Commons; and trust, that the full discussion which the subject has received, and is receiving, from the profession at large, and the attention now about to be bestowed on it by Parliament, will lead to the removal of some of the evils of which the College have frequently had occasion to complain.

2d. That, in the opinion of this College, the great evil arising from the want of an uniform system of medical legislation throughout the united kingdom, is the possession, by particular corporations, of local privileges, which render their Licentiates alone legally capable of acting as general practitioners in particular districts in portions of the country, to the exclusion of persons of equal, and it may even be, of superior qualifications.

3d. That, so far as the College is aware, the only plausible objection which has been urged against the abolition of these local privileges, and against the

adoption of a system for placing the Licentiates of all the Medical Corporations on an equal footing in respect of the right of practice, is the inequality alleged to exist, or actually existing, in the amount of Medical Education required of candidates for their licenses by their several Boards, and in the degrees of strictness with which the examinations of such candidates are conducted.

4th. That whilst, therefore, with a view to the interests both of the public and the profession, community of privilege should, in the opinion of this College, be the primary object of any legislative enactment relative to the medical profession, sufficient education and examination must, at the same time, be duly provided for.

5th. That from the communications which have taken place, and the understanding that has been come to, between a number of the different Boards with which the superintendence of medical education at present rests, little difficulty can now exist in fixing a minimum course of study, general and professional, without evidence of having passed through which, no one should be allowed to present himself as a candidate for a medical license. On this point the College will only farther refer to the joint resolutions agreed on by the Medical Faculty of the University, and by the Royal Colleges of Physicians and Surgeons, of Edinburgh, of date October 1838.

6th. That to produce some approach to uniformity in the system on which the examinations of candidates for licenses are conducted by the several Boards, and to secure the public against the admission of incompetent persons into the medical profession, it appears to this College that it would be desirable that some superintending body should be constituted, having authority to take cognizance of the manner in which the duty of examination is executed.

7th. That the persons of whom this Board should consist might probably be most advantageously selected by the Crown from lists furnished by this and the other boards at present entrusted with the government of the medical profession.

8th. That, in the opinion of this College, no measure of medical reform will be satisfactory which does not confer on a person who has once received a certificate of his fitness to exercise the medical profession from any of the established Boards, the right of practising in any district of the country, or in any particular department of the profession, without the necessity of submitting himself to a second examination before another board.

9th. That whilst the College readily acknowledge that the proposal of creating a representative body or bodies, elected periodically by the profession at large, by which the affairs of the medical profession might be superintended and directed—(a proposal which forms so prominent a feature in the two measures which have been submitted to Parliament)—is desired by many most respectable members of the profession, they are disposed to believe that this desire has in a great measure originated in accidental and removable causes; and they are satisfied that any attempt to carry it into effect would be attended with serious inconveniences, if not insuperable difficulties.

10th. That, in particular, the College conceive that this proposal has in a great measure grown out of the dissatisfaction very generally prevailing among the members of the medical profession, not only with the local privileges of practice attached to the licentiates of particular corporations, as already noticed, but also with the narrow and exclusive system on which admission into the governing body of some of the medical incorporations has hitherto been regulated; and that the adoption by, or enforcement on, these corporations of conditions of admission of a more reasonable and liberal character, in obtaining for them the confidence of their licentiates, would in a great measure supersede the desire at present existing for a representative system of superintendence.

11th. That among the obvious inconveniences with which the election of a representative body, by the medical profession at large, would be attended, the College conceive that it would have the effect of producing and continually re-

newing agitation and dissension among the members of the profession, and of directing their attention from far more important duties; whilst those who are best qualified for performing the duties that should be committed to a superintending body, would be least likely and least able to take those steps which are essential to the gaining of popular suffrages. And, as a farther objection to the Boards proposed, in the bills before Parliament, to be established for the regulation of the profession, it may be remarked, that, from the multifarious duties intended to be committed to their members, and the necessity which would be imposed upon them from time to time, of leaving their homes for execution of these duties, it would be impossible to obtain the services of persons of eminence and station in the profession; and that the appointments would therefore fall into the hands of an inferior grade of individuals, in whom neither the public nor the profession would have confidence.

12th. That whilst the College readily acknowledge that the actual constitution of some of the medical corporations in the united kingdom requires to be rendered more conformable to the spirit of the age, they are not disposed to admit that these institutions are so useless, or so incapable of amendment, as to make it advisable either to abolish them by direct, or to supersede them by indirect legislation, the acknowledged fact being that, notwithstanding any defects under which they may labour, the country is, through their agency, provided, at the present time, far beyond all precedent, with well-educated and judicious practitioners.

13th. That it would be desirable that the duty of examination should be remunerated in such a manner as to remove the possibility of a suspicion, that the examiners have a pecuniary interest in the number on whom they confer the license to practise.

14th. That, considering the large amount of services gratuitously rendered to the public by the medical profession, the very inadequate compensation received by a large proportion of its members for the long and expensive course of education necessary to qualify them to practise, and for the performance of its very laborious duties; and considering also the direct interest which the public has in being able easily to distinguish between qualified and unqualified practitioners of the healing art, the College are decidedly of opinion, that any additional expenses which might be occasioned by an improved system of medical legislation should be defrayed out of the public purse, and not by an annual tax upon the profession, as seems to be contemplated in the measures which have been submitted to Parliament.

15th. That the College consider that it would be highly desirable that a scheme should be arranged for the registration of licensed practitioners. That, in their opinion, none but registered practitioners should be legally eligible for any public professional situation; that the assumption of a professional designation by a person not entitled to it, should be declared an offence punishable at common law; and that the right of suing in Courts of law for professional remuneration should be secured to licensed, and denied to unlicensed practitioners. But, in recommending enactments to these effects, for the encouragement of the licensed, and the discouragement of the unlicensed, the College is convinced that the suppression of unlicensed practitioners is beyond the reach of legislative interference, so long as there exists a taste for this species of practice in the public mind.

Such a reform would be a very good thing for the Graduates of Edinburgh. For it is *not very* likely that many Englishmen will either go to Scotland for practice, or, if they go, do any thing but starve there—while it is *very* likely that Scotchmen will come to England and do well here. So that the reform which the College of Physicians of Edinburgh desire would be a capital hit. Universal legislation of practice would tell bravely for the modern Athens. A cheap education would be got there, and its schools would thrive.

We now come to the—

COLLEGE OF PHYSICIANS OF LONDON.

Report addressed to the Royal College of Physicians by the Committee appointed by the College to confer with the Deputation from the College of Surgeons and the Society of Apothecaries.

"The Committee appointed by the College of Physicians to confer with the deputation from the College of Surgeons, and the Society of Apothecaries, having carefully investigated the various grievances complained of in the several petitions to parliament for Medical Reform, and having considered the communications from different fellows 'of their views, as to any or what changes in the present constitution of the college can be effected with safety to the great objects of the college,' submits the following report:—

The grievances alleged in the petitions for reform may be stated as follows:—

1. The want of a general registration of licensed practitioners.
2. The absence of uniformity of education and qualifications in England, Ireland, and Scotland, and that licenses to practise obtained in one country are invalids in the others.
3. Self-election to the fellowship of the College of Physicians, to the council of the College of Surgeons, and to the court of assistants and examiners of the Society of Apothecaries.
4. The exclusion of the licentiates of the College of Physicians from the use of the library and museum of the college.
5. The want of some legislative enactment respecting the licensing of duly qualified persons as chemists and druggists.
6. The want of some body or board to whom all questions of medical police, public health, &c., should be referred.
7. The absence of some restriction upon quacks and venders of quack medicines.

With respect to the last complaint, the necessity for some restrictions upon quacks or quack medicines, the committee is of opinion, that any future legislative enactments upon that subject, if such were deemed advisable, should be entirely irrespective of the College of Physicians, and should demand only the interference of the civil magistrate.

As regards the other allegations contained in the petitions, the committee think that certain changes may be effected with safety, and, in its judgment, with advantage to the College of Physicians; and which will remedy the evils complained of, as far as they relate to the college.

The committee, fully appreciating the difficulty of the task confided to it, begs to submit to the college the following statement of the alterations which it believes to be desirable at the present time.

Resolutions of the Committee.

1. That it is expedient that all physicians now practising throughout England and Wales, with a diploma of M.D. obtained from any British university, and who have attained the age of twenty-six years, should be entitled to admission into the order of licentiates of the college, without any examination, but upon the payment of fees hereafter to be determined.

2. In order to do away with the principle of self-election, the licentiates of the college shall henceforth nominate, annually, a certain number from their own body, for election into the fellowship, and from whom the fellows shall select one-half. The nomination to be conducted by ballot, a balloting-paper having been transmitted, on a given day, to each licentiate, whose address appears on the college list. The number of licentiates to be nominated in each year to be determined by the college.

3. That henceforth the licentiates shall, under certain regulations, have access to the library and museum of the college.

4. That the University of London having required for the degree of M. D. a high standard of education, which is, to a great extent, in accordance with the views of the College of Physicians, the college will be ready to admit into the order of licentiates the doctors in medicine of that university, provided that they shall respectively have attained the age of twenty-six years, and that the censors shall have assisted at their medical examination.

5. That similar or equivalent privileges shall be accorded to the graduates in medicine of Oxford and Cambridge, who have obtained their license to practise, provided those universities shall have adopted a curriculum of medical study equal to that which the college requires.

6. That it is desirable that uniform medical qualifications should be demanded of all candidates for the degree of M.D. in England, Ireland, and Scotland, and that the degree of M.D. so obtained in either country should henceforth confer a right to practise in all, provided the graduate shall have enrolled himself in the College of Physicians of the country where he resides.

7. That doctors in medicine from foreign universities, or from such British universities as shall not assimilate their qualifications for the degree of M.D. to those contemplated in the foregoing resolution, shall be admitted into the order of licentiates upon producing testimonials of having fulfilled the course of medical study now enjoined by the college, and after having undergone the usual examinations by the censors.

8. That the College of Physicians should have only one board of examiners and a uniform system of examination for all candidates for their license, and that the order of extra-licentiates should be abolished.

9. That in any new legislative enactments that might be necessary to carry the foregoing resolutions into effect, powers might be vested in visitors appointed by the crown (or in some other controlling body), to whom all new by-laws of the College of Physicians should be submitted for their approbation.

Lastly. The committee is of opinion that if the fellows of the College of Physicians should express their willingness to modify their statutes to meet the wishes of physicians throughout the country, and to facilitate the admission into their body of all duly-educated persons, by the altering the mode of election into their fellowship, they would be authorised to claim from the legislature a confirmation and extension of the jurisdiction of the college, so as to render it effective for the protection of the interests of their branch of the profession throughout England and Wales."

This plan is a continuation of the half-measures hitherto pursued, which have reduced the college to that state of bankruptcy which its friends deplore. The distinction of fellows and licentiates is to be perpetuated—the latter are still to be elected by the former, made fellows by favouritism, excluded by jealousy. The amalgamation of physicians in England and Wales will be as remote as before. Whatever may be thought of one faculty, there can be little doubt of the absurdity of two orders of physicians—at all events of two orders not based on examinations open to all, but on election and intrigue.

THE APOTHECARIES' REPORT.

In conformity with the second resolution passed at the Conference held at the Royal College of Physicians, on the 21st of November, the Society of Apothecaries have taken into their consideration the acts of parliament granted to them in the years 1815 and 1835 (which last expired in the ensuing year), and have prepared a series of alterations and amendments in their act, which, if adopted, would in their opinion be highly acceptable to the general practitioner, and tend in a great measure to remove many objections that have from time to time been urged against that measure. It will be evident upon examination, that in the changes thus proposed by the Society they are not actuated by any

interested motives, but that they have endeavoured to direct their attention solely to the correction of those imperfections which have been pointed out to them by their own experience, or by those of others.

But independent of the changes proposed in their act, the Society have thought it incumbent upon them, in accordance with the resolution above-mentioned, to offer a sketch of a more general and extensive measure, pointing out certain principles, which, if agreed to by the three existing corporations, would, they conceive, prove highly satisfactory to all parties, both in and out of the profession, and which they would be prepared to develop more at large if called upon so to do.

The Amendments and Alterations proposed in the Act of 1815.

1. The Society desire to give up the power of searching shops.
2. They wish to modify the clause compelling an apprenticeship of five years to an apothecary; they would propose either to shorten the period of apprenticeship, or receive as an equivalent a certain period of instruction (two years) in practical pharmacy, at the option of the parent or guardian of the pupil.
3. They would give up the power of prosecuting the unqualified practitioner, as they think it objectionable as now conducted. They think that the punishment of the unqualified practitioner should rest upon summary conviction; and to render this effectual, it would be necessary.
4. To introduce a general registration of all medical men.
5. They would consent to the election of a certain proportion of the members of the Court of Examiners (not exceeding one-half) from among their licentiates of ten years' standing, not being members of the Society of Apothecaries; the election, however, still remaining as at present with the Society.
6. They would wish that one uniform sum should be paid for the certificate of qualification, both for London and the country; that sum to be 6*l.* 6*s.*

Additions required to be made to the Act.

1. Apprentices to Surgeons should be admitted to examination.
 2. Army and Navy Surgeons, and Assistant Surgeons, as well as those in the service of the East India Company, should be permitted to practise without being subjected to any further examination.
 3. A clause should be inserted, compelling all chemists and druggists to undergo an examination in the Latin Pharmacopœia, Pharmaceutical Chemistry, and the Materia Medica, and granting them thereupon a license to carry on their business as chemist and druggist merely.
 4. A clause providing for the examination of all persons practising midwifery.
- Should such an arrangement of the act of parliament meet the wishes of the Royal Colleges of Physicians and Surgeons, it would be necessary that the latter body and the Society of Apothecaries should cordially unite in forming a curriculum of study that would apply equally to the surgical and medical student, and that they should also agree to a division of the subjects of examination, the College examining in Anatomy, Physiology, Surgery, and perhaps Midwifery; the Hall in Latin, Botany, Chemistry, Materia Medica, Forensic Medicine, and the practice of Medicine.

It would also be very desirable to divide the examination into two or more parts, to be held on separate days, or after certain intervals of time interposed between each.

Enumeration of certain grounds upon which a more general and extensive measure might be founded.

It is considered that no plan can be satisfactory to the general mass of the medical profession that does not concede some share in the management of each body to its respective members.

2. It is no less desirable that a uniformity of education, and also of examination, should be established in all the medical bodies in the three kingdoms, and that no impediment should exist to prevent the licensed practitioner from practising in whatever part of the empire he chose.

OBITUARY.

DEATH has proved himself a dexterous marksman, of late, among our metropolitan Surgeons. Four prominent characters have, within a few months, been "gathered to their forefathers!" Copland Hutchinson, Anthony Carlisle, John Howship, and last, not least, Astley Cooper, have "left the warm precincts of the cheerful day," and gone to their narrow, but everlasting beds! None of these have died of old age, and the death of most of them was little expected. It is worthy of notice that two out of the four (Hutchinson and Cooper) died of the same complaint—organic disease of the heart or its consequences. Sir Astley Cooper having been long at the head of the surgical profession in this country, his illness excited more anxiety, and his death produced a stronger sensation, both in and out of the medical world, than we ever before witnessed. We think it is indisputable that no surgeon in this, or any other country, ever realized such a fortune, or acquired such wide spread fame, as Sir Astley Cooper. Much, both of his riches and reputation, was owing to his pleasing manners and cheering conduct towards his patients, and his liberal and honorable bearing towards his professional brethren. The eccentricities and uncouthness of Abernethy threw a handsome fortune into the purse of his more polished and courtly contemporary.*

It was once the fashion among hypercritics to say that Sir Astley Cooper was not a very scientific Surgeon. But neither medicine nor surgery has yet attained the rank of science; and we are inclined to think that he who is the most successful is the most scientific practitioner. Besides, these detractors have been put out of countenance by the valuable surgical works, and the beautiful anatomical preparations bequeathed to the profession by Sir Astley Cooper.

Although we have been personally acquainted with this distinguished member of our profession for 36 years past, yet his character has been so public that we can say little that has not been already said of him. The readers of this Journal are aware of the high terms in which we have always spoken of this eminent surgeon and his works, and we will not now indulge in panegyric, merely because he is dead.

Sir Astley exhibited a remarkable illustration of the adage—that it is more difficult to know one's self than to know one's neighbour. His long practice in the city must have brought many proofs before him of the difficulty as well as danger of changing long-established habits, whether mental or corporeal. Yet before the grand climacteric had passed over his head, he determined to break from the turmoil of overwhelming practice, and return to the woods, the lawns, and the groves of his elegant Tusculum, near Watford—there to crown

"A youth of labour with an age of ease."

A very short trial of this "*otium cum dignitate*," convinced the worthy Baronet that the subduction of mental excitement and corporeal exertion, in his case, would be attended with the same consequences that result from the sudden withdrawal of opium or ardent spirits from those who long indulged in such stimuli. The struggle was short, for the *ennui* was insupportable; and Sir Astley put on the professional harness never to be thrown off, till death closed the scene! The bustle and activity of body, the energy of mind, and the daily or rather hourly incense, to which the late Baronet was so long accustomed, could not be exchanged for mere literary leisure or rural pursuits, and the blackest shade of melancholy, or perhaps something worse, would soon have wrapped a noble mind in impenetrable gloom, had there not happily remained an open door for re-entering the busy scene of professional life.

* The immediate cause of death in both cases, was the same—Effusion in the Chest.

The anecdotes of Sir Astley's life would make a small volume; for he had a great deal more of humour, especially of good humour, than his eccentric contemporary, Abernethy, and seldom lost an opportunity of exercising it himself, or extracting it from others. A good many of his *facetie* are recorded in his lectures, but the great bulk are only floating in the memory of his friends and acquaintances. The bon mots which he made or picked up, were almost innumerable. We shall only allude to one—which he was very fond of repeating. When he removed a small tumour from the head of the then Prince Regent, his royal patient asked him what the tumour was called? Sir A. replied that its technical name was a "STEATOME." "Indeed!" rejoined the Prince, "I hope sincerely that it will *stay-at-home* for the future, and pay me no more visits."

The personal appearance of the worthy Baronet was extremely prepossessing, and, combined with his affability, contributed not a little to his professional success. In the month of September, 1834, the writer of this article was walking, one fine day, down the principal street of Berne, in Switzerland, when he observed a fine tall and majestic figure slowly pacing the middle of the same street, while numbers of people on both sides were constantly stopping to look at this object of general attention. Even the ladies were throwing open the sashes of their windows, and admiring the noble-looking stranger, who in his turn was contemplating, with much curiosity, and apparent enjoyment, the singular and picturesque costume of the Bernese. By a side-glance, the writer recognized his old friend and preceptor, and stealing up quietly behind, gave the Baronet a very smart slap on the shoulder, to the no small amusement of the Bernese loungers and spectators. A blowse-frock, travelling cap, and bronzed complexion, so masked the old friend, that Sir Astley was utterly astonished at the liberty which a stranger had taken in the middle of the street. Matters, however, were easily explained, and the writer strongly urged the Baronet to make excursions among the mountains with him, in search of health, rather than plod among the museums and hospitals, of which he must have had enough and to spare. But no. Sir Astley had rather breathe the mephitic atmosphere of the dead-house or dissecting-room, than inhale the invigorating breeze of alpine height, or glittering glacier. It is probable that had this highly talented surgeon spent a couple of months annually in travelling exercise, he would have greatly checked the ravages of gout, and one of its most fatal sequences—disease of the heart.

It is quite useless to advert to Sir Astley Cooper's writings or lectures. They are well known, and need no eulogy or even notice. Many of the gossiping facts that have been stated in print, since Sir Astley's decease, are mere *fictions*. The anecdote of his demanding a shilling from an old patient who had tendered him a sovereign, is, we have no doubt, totally devoid of foundation. Till the very last illness, Sir Astley was eager after practice, and scarcely ever declined it, even when the case was purely medical; but it was not the thirst for fees—it was the love of avocation that led him to die with harness on his back. It is quite evident that the early habits and active life of this eminent practitioner disqualified him for literary leisure in advanced age. Even the salutary and amusing exercise of travelling, which his fortune enabled him to pursue, was not an equivalent for the professional avocation which had become a part and parcel of this gifted individual's constitution.

Sir Astley Cooper was one of those (not too numerous) who always acted with liberality and honesty towards his brethren, whether behind their backs or before their faces. The default in this Christian and humane conduct has injured, and continues to injure the medical character more than all the abuses which have crept into our institutions, and all the other imperfections that pervade our ranks! This amiable trait in Sir Astley's character will long render his memory cherished by a wide circle of his professional brethren, and will cause even more regret than the loss of his professional skill and acquirements to the community. Sir Astley was the last King Chirurgical which England

will ever see. The advances and the diffusion of general, as well as medico-chirurgical education, have now worked a greater equilibrium of knowledge among the profession than ever before existed. We may, and, no doubt, always will have an *aristocracy* of talent and reputation; but never an *autocracy* again! It will be the same with professional income. We much doubt whether any surgeon in this metropolis will ever receive *half* the annual income which Sir Astley Cooper received for many years in succession. For his princely fortune he was *partly* indebted to the times in which he lived—but *chiefly* to natural talent, inextinguishable zeal, unwearied industry, liberality of conduct to his brethren, and courteous demeanor to all. These are the honorable characteristics that ought to be engraven on his tomb!

EGYPT AND MOHAMMED ALI, ILLUSTRATIVE OF THE CONDITION OF HIS SLAVES AND SUBJECTS, &c. By R. R. MADDEN, M. D. Octavo, 1841. Hamilton and Co.

OUR old friend, Dr. Madden, whose exertions in the cause of humanity were so successful in the West Indies, is now on his way to the Niger, with the exploratory expedition to that land of sickness and slavery. As an interlude between Cuba and Cape Coast Castle, our highly talented and adventurous friend accompanied Sir Moses Montefiore on his mission to Damascus, with the view of rescuing the Jews of that once famous city from the iniquitous persecution of their Mohammedan tyrants—a persecution, we grieve to say, instigated, prompted, witnessed, and approved by the representatives of *liberal* France—Mons. MENTON, the Consul General of the “Grande Nation!!” This worthy employée of the candid and ingenious Thiers managed to see a few of the poor Israelites scourged to death, or *tortured*, till they confessed that of which they were no more guilty than was the Queen of England! Such are the enlightened views of *jeune France*! But as this subject will be better handled by the lay press than by us, we shall say no more on it.

Dr. Madden was once more at home in the East, after an interval of many years, and his little volume will be read with great interest by all who have at heart the liberation of our fellow men from the chains of slavery, whether in Egypt, Africa, or the Antilles. There is but one short chapter in the work which bears directly on medicine—and that is, “On the Plague at Alexandria in 1840.”

Dr. Madden met with his old acquaintance, Dr. Grassi, after an interval of fifteen years, in the plague hospital, where he had officiated during that long period. There are, perhaps, few medical men now living, who have had such ample opportunities for observation on this interesting subject, as Dr. Grassi. “He is a plain practical man, of strong sound sense, and one whose opinion on the subject of contagion or non-contagion, deserves more attention than that of any man alive.”

“Dr. Grassi believes that the plague is contagious, and it seems to me impossible for any man in his senses to hear Grassi’s opinions given on this subject—opinions founded on experience alone, and the strong arguments and facts which he brings forward in support of those opinions, and not conceive with him that this disease is propagated from one person to another, and that the separation of the sound from the sick, is requisite to prevent the disease from spreading through the community. Clot Bey has written, recently, a large work on this subject, in which he controverts these opinions, but he has proved nothing, and his opinions are not those of a practical observer of this disease.”

Dr. Grassi and Dr. Madden agree that the injuries done to commerce by the present quarantine are great, and, in a great measure, unnecessary. It is the

opinion of Dr. Grassi and of all the contagionists in Egypt, that the miasma is quite innocuous after ten days, whether in clothes or goods. Not one of them ever knew the disease to be propagated by infection after 20 days from the time of contact. The head of the quarantine department at Malta assured Dr. Madden that he never saw a single case of plague being communicated in the Lazaretto there, under, any circumstances whatever. The same authority thinks that eight or ten days' quarantine are amply sufficient for the protection of the island against plague. On this side of Gibraltar no quarantine at all is necessary, where there are clean bills of health.

A TABLE

Exhibiting the progress and Decrease of the Plague.

January, received	.. .. .	5
February “	.. .. .	15
March “	.. .. .	57
April “	.. .. .	179
May “	.. .. .	162
June “	.. .. .	48
July “	.. .. .	27
August “	.. .. .	2
In the Plague Hospital of the Lazaretto Total		495

In the City, the Port, and the Suburbs of Alexandria, about 1000 cases more.

Should our amiable and highly accomplished author ever return from the Niger expedition, (which we fervently hope he will,) there is little doubt that we shall have a volume of highly interesting information from that “undiscovered bourne,” from whence, alas! but few return to tell the tale!

THE DOMESTIC MANAGEMENT OF THE SICK-ROOM, NECESSARY IN AID OF MEDICAL TREATMENT, FOR THE CURE OF DISEASES. By A. T. THOMSON, M. D. &c. &c. Octavo, pp. 506. Longman & Co. 1841.

This volume is dedicated to the “Ladies of Great Britain,” and “intended to render efficient their duties in the sick-room.” To the said ladies it is one of the most valuable gifts that have ever been presented from the pen of a talented, old, and experienced practitioner. But the ladies of Great Britain are not the only class who ought to study this volume. The whole of the young practitioners—and nine-tenths of the old ones—will here find an immense magazine of “useful knowledge,” which will often prove more serviceable and available than the armamenta medicaminum of the Pharmacopœia. The prescriptions of the physician are very often rendered nugatory, if not injurious, by the ignorance of the nurses and friends of the sick—and it is equally the duty and the interest of the medical practitioner to peruse and recommend this volume, as a work that will conduce to the recovery of his patient and the credit of himself. Unlike the generality of popular medical works, this of Dr. Thomson's will tend to smoothe the path of the medical attendant by edifying and instructing the nurses and friends of the sick. We shall probably extract some passages in a future number, as samples of the work; but the name of the author, and the intrinsic merits of the performance, will insure it an extensive circulation.

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2. A popular Essay on the Value and Present Condition of the Practice of Vaccination, &c. By a Physician. Octavo, pp. 32. Birmingham. 1838.

3. History of Embalming, and of Preparations in Anatomy, Pathology, and Natural History; including an Account of a New Process for Embalming. By G. N. GANNAL. Paris, 1838. Translated with notes and additions. By R. HARLAN, M.D. 8vo. pp. 264. Philadelphia, 1840.

4. Phrenological Journal, and Magazine of moral Science. Quarterly. No. 66. Jan. 1, 1841. MacLachlan and Stewart.

5. Magdalenism. An Enquiry into the Extent, Causes, and Consequences of Prostitution in Edinburgh. By W. TAIT, Surgeon. Octavo, pp. 266. Edinburgh, P. Rickard, 1841.

6. Retrospect of Practical Medicine and Surgery. Being a half-yearly Journal, containing a retrospective view of every discovery and practical improvement in the Medical Sciences. By W. BRAITHEWAITE, Esq. No. 2, July and December, 1840. Octavo, pp. 416. Simpkin & Co.

✍ This work increases in interest and utility.

7. The Anatomy of the Arteries of the Human Body, &c. Part IV. By RICHARD QUAIN, Esq. &c. Taylor and Walton, Jan. 1841.

8. Medicinischer Argos. Herausgegeben, Von den D. D. HACKER, und Professor HORN. Leipzig, 1840. Nos. 1 and 5, Vol. 1, p. 800.

✍ We have noticed this new and interesting periodical elsewhere.

9. On the Principles of Sound; their application to the New Houses of Parliament, and assimilation with the Mechanism

of the Ear. By A. W. WEBSTER, author of a Treatise on the Structure of the Ear, and Deafness. 8vo. pp. 112. Simpkin and Marshall, 1841.

10. A Letter to the Right Hon. Viscount Melbourne, with the outlines of a Bill regulating the Practice of Surgeons, Apothecaries, and Chemists and Druggists, &c. By MARTIN SINCLAIR, M.D. Senior Medical Officer to the Hulme Dispensary. 8vo. pp. 36. Highley, 1841.

11. Noces Philosophicæ: or the Philosophy of Things, as developed from the study of the Philosophy of Words. By EDWARD JOHNSON, Esq. author of "Life, Health, and Disease." No. 1. Jan. 1841. Simpkin and Co. Price one shilling.

12. The Anatomy of the Nerves of the Uterus. By ROBERT LEE, M.D. F.R.S. Physician to the British Lying-in Hospital, and Lecturer on Midwifery at St. George's Hospital. Folio, with two Plates. Balthere, Regent-street, Jan. 1841.

13. The Cause and Treatment of Curvature of the Spine, and Diseases of the Vertebral Column. Illustrated with cases and plates. By E. W. TUSON, F.R.S. F.L.S. Surgeon to the Middlesex Hospital, &c. &c. Octavo, pp. 282. Churchill, 1841.

14. The Domestic Management of the Sick-room, necessary in aid of Medical Treatment, for the cure of Diseases. By ANT. TODD THOMSON, M.D. &c. Octavo, pp. 506, with numerous wood-cuts. Longman & Co. 1841.

✍ This excellent hand-manual to the medical practitioner should be in every family—especially where there are children or invalids.

15. The Second Annual Report of the Northampton General Lunatic Asylum, (opened August 1st, 1838), from July 1839, to June 1840—together with an earnest appeal to the public on its behalf. Wellingborough, 1841.

✍ This Report is from the pen of Mr. T. O. Prichard, and does him credit.

16. Edinburgh Monthly Journal of Medical Science. Edited by Dr. J. R. CORMACK, M.D. Nos. 1 and 3, Jan. and Feb. 1841.—*In exchange.*

17. A Practical Treatise on the Causes, Nature, and Treatment of Strictures of the Urethra; with a Review of the Different Modes of Treatment. Illustrated by cases. By FRANCIS BURDETT COURTNEY, Member of the Royal College of Surgeons. Octavo, pp. 244. Simpkin and Marshall, 1841.

18. Egypt and Mohammed Ali. Illustrative of the condition of his Slaves and Subjects, &c. By R. R. MADDEN, M.D. &c. Octavo. Hamilton, Adams, and Co. 1841.

19. Provincial Medical and Surgical Journal, in weekly numbers, received regularly.—*In exchange.*

20. Report of the Superintendent of the Boston Lunatic Hospital, and Physician of the Public Institutions at South Boston. July 1, 1840.

✍ *A sensible and able Report.*

21. A few Hints addressed to Medical Students about to visit the Parisian Hospitals. By a Physician. Duodecimo, pp. 56. Churchill, 1841.

✍ *A useful little vade mecum.*

22. The Surgical Anatomy of Inguinal Herniæ, the Testis, and its Coverings. By THOMAS MORTON, one of the Demonstrators of Anatomy in University College, London, &c. illustrated with Lithographic plates and Wood Engravings. Royal 8vo. pp. 123. Taylor and Walton. 1841.

23. The Library of Medicine. Arranged and Edited by ALEX. TWEEDIE, M.D. F.R.S. &c. Vol. VI. MIDWIFERY, by Edward Rigby, M.D. Physician to the General Lying-in Hospital, &c. pp. 314. Whitaker 1841.

24. On Paralytic, Neuralgic, and other Nervous Diseases of the Eye. By ARTHUR JACOB, M.D. Professor, &c. (From the Dublin Medical Press), 1841.

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THE
MEDICO-CHIRURGICAL
REVIEW,

AND
JOURNAL
OF
PRACTICAL MEDICINE.

(NEW SERIES.)

VOLUME THIRTY-FOUR.

[1st of OCTOBER, 1840, to 31st of MARCH,
1841.]

VOL. XIV. of DECENNIAL SERIES.

EDITED
BY JAMES JOHNSON, M.D.

PHYSICIAN EXTRAORDINARY TO THE LATE KING,

AND
HENRY JAMES JOHNSON, ESQ.

LECTURER ON ANATOMY AT THE SCHOOL OF ST. GEORGE'S HOSPITAL IN
KINNERTON STREET.

NEW YORK.
REPRINTED
BY RICHARD & GEORGE S. WOOD,
No. 261 PEARL-STREET.

PRINTED BY AARON GUEST,
121 Market street, Newark, N. J.